IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA
Civil Action No. 99-CV-02496 (GK)

UNITED STATES OF AMERICA,

Plaintiff,

vs.

PHILIP MORRIS, INCORPORATED, et al.,

Defendants.

DEPOSITION OF GARY THOMAS BURGER
(RJR) - CONFIDENTIAL - US v. PM, 99CV2496

The deposition of GARY THOMAS BURGER was taken by the Plaintiff for the purpose of discovery and for use as evidence in the above-entitled cause before PAGE CHAMPION ROBERTS, CVR-CM, Certified Verbatim Reporter and a Notary Public for the county of Guilford and the state of North Carolina at large, in the Office of the United States Attorney, 251 North Main Street, Seventh Floor, Winston-Salem, North Carolina, on the 26th day of July 2001, beginning at 9:12 a.m.

GRAHAM ERLACHER & ASSOCIATES
3504 WEST HILL ROAD - SUITE 22
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EXHIBITS

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ALSO PRESENT:

Monica Ludwig

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STIPULATIONS

(1) It is stipulated and agreed to between all parties that the deposition is being conducted pursuant to the Federal Rules of Civil Procedure.

(2) The deposition is being conducted pursuant to notice and subpoena.

(3) It is further stipulated that the reading and signing of the deposition are not waived.

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Thereupon:

GARY THOMAS BURGER

a witness called pursuant to notice and subpoena, first being duly sworn, was examined and testified on his oath as follows:

EXAMINATION BY MR. ELLISON

Q. Good morning, Dr. Burger.

A. Good morning.

Q. We met a few minutes ago, but for the record, my name is J. P. Ellison and I'm an attorney with the U.S. Department of Justice, who is the plaintiff in a lawsuit against a number of cigarette manufacturers, including your former employer, R. J. Reynolds, and you are here for a deposition in that case. You've been deposed before, is that correct?

A. That's correct.

Q. Three times?

A. That's correct.

Q. And the last time was in the Engle case in '99?

A. That's correct.

Q. And did you testify as a fact witness or an expert witness in Engle?

A. I believe I was an expert witness.

Q. And do you remember what the topic was?

A. R and D, research and development, and the state

of R and D over the years I've been at Reynolds.

Q. Okay. Have you ever testified at trial?

A. No, I have not.

Q. I'm going to go over a couple of rules that you'll probably be familiar with because other attorneys in previous depositions have done it, but we'll just do it in case mine are somewhat different and in case you didn't remember anything.

A. Okay.

Q. The first thing is that the court reporter can only record audible responses, so that if you shake your head up and down or from side to side and I ask you is that a yes or is that a no, it's not because I'm trying to be a jerk. It's just that I want the record to be clear.

A. I understand.

Q. If I ask you a question and it's not clear, please let me know. If you don't ask me, I'll assume that you understand the question. Is that okay?

A. That's fine.

Q. If at any point you want to take a break, just let me know, and if we're in the middle of something, I'll try to wrap it up as quickly as possible and then we can take a break. If at any point you want to talk to your attorney, that's fine. Just let me know, and we can also take a break. Is all that clear?

A. That's clear.

Q. Okay. In addition, throughout the course of the deposition, I will probably be referring to Reynolds or RJR. When I do that without further, you know, qualifiers or explanation on the back, I'll be referring to R. J. Reynolds Tobacco Company, which was your former employer. Is that---?

A. That's - that's fine. That's fine.

Q. Okay. At different points I may refer to other RJR entities like RJR Tobacco International or other entities, but if I'm not adding those additional words on, I'll be referring to your employer.

Is there any reason that you don't feel you can go forward with the deposition today?

A. None at all.

Q. Are you taking any medication that might affect your memory?

A. No. I'm just taking Advil.

Q. I have your prior employment history from prior depositions, but, unfortunately, there were actually a couple of pages missing from the version that I looked at, so I'm going to start out, and if you could fill in the blanks for me.

A. Sure.

Q. You started with Reynolds on October 3rd of 1984,

is that right?

A. That's correct.

Q. And you were the director of toxicology?

A. That's correct.

Q. And how long did you have that position?

A. Till approximately June of 1990.

Q. Okay. Actually, there aren't any blanks. Then in June of - from June of '90 to October of 1992, you were the vice president of advance technology products, is that correct?

A. That's correct.

Q. And then from October of '92 to May of '96, you were the vice president of product development and assessment?

A. It changed its name several times, but it was the product development and brands and later became product assessment as well.

Q. Okay. So from '92 to early '93 or '94, it would have been product development and brands?

A. Yes. I don't recall "brands" was listed in the title, but it was part of my responsibility.

Q. Okay. And then brands went somewhere else?

A. That's correct.

Q. And then from '94 to '96, you also had responsibilities for---?

A. Some of product assessment, yes. Toxicology reported to me and scientific affairs.

Q. Okay. And then in May of 1996, you became the senior vice president and director of research and development?

A. That sounds right.

(Thereupon, Mr. Cassetta enters the deposition.)

Q. And when did you retire?

A. 1 January of 2001.

Q. And what are you doing now?

A. Well, I am fixing our place up for sale and working to get a ranch in order in Oklahoma near where my wife was born and raised.

Q. Need any help with that?

A. Yes, I do, as a matter of fact.

MR. MCDERMOTT: You're the first to offer.

A. Are you any good?

Q. No, but I'll work hard.

A. Okay. That's all I can ask.

Q. Do you do any - do you have any professional relationship with R. J. Reynolds?

A. Yes. I do some consulting this year, go in one or two days a month, and it ends December 31st.

Q. And what do you do consulting on?

A. Well, the scientific experts and panels that

you've used, I'm helping with the transition of that over to my successor and his staff.

Q. Okay. And do you have a contract with - a written contract?

A. Yes, I do. Yes, I do.

Q. You're, by education, a doctor of veterinary medicine, is that right?

A. That's right, and a bachelor in agriculture.

Q. And you are board-certified in veterinary pathology?

A. Yes. My specialty is comparative pathology in that arena. I have my boards there.

Q. And what is comparative pathology?

A. Well, the particular area of expertise I went into is animal models of human disease, cancer research, and toxicology in those animal models.

Q. I believe you said in prior depositions that you're a pathologist by training, but a toxicologist by experience?

A. That's correct. I am a member, full member of the Society of Toxicology, and the first year I applied, which I think was '84 or '85, I received full membership because of my experience in teaching and research in toxicology. I do not have a Ph.D. in toxicology.

Q. And sort of in layman's terms, what is the study

of toxicology?

A. Well, it's the study of the effects of xenobiotics and exogenous substances on animal and human systems.

Q. And for those of us who may not be entirely familiar, xenobiotics?

A. Well, things that can affect potentially biological systems that are from outside. The term "xenobiotics," I don't like it either, but it would incorporate environmental exposure to compounds or substances, diet, pharmaceuticals, pollutants, et cetera. It's a term of art, if you will.

Q. When you came to Reynolds in October of '84 as director of toxicology, what generally were your duties and responsibilities?

A. I was asked in an interview to consider putting together a toxicology facility, to recruit a toxicology staff and related disciplines, and to expand the bioassays and toxicology assays that were already present at Reynolds, to add more assays that would be used in the testing of tobacco products.

Q. And, again, sort of in layman's terms, what is an assay?

A. It's a test to evaluate the effects on cellular systems or on animal systems of ingredients, chemicals, complex mixtures like tobacco smoke, that sort of thing.

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Q. Was there a specific focus on cigarettes or tobacco?

A. Yes, that was the focus entirely. There was the potential that we might, if asked, do some things on some of the other subsidiaries of R. J. Reynolds, but I never had any interaction with anything at Nabisco, Del Monte, or any of the other former subsidiaries.

Q. And in addition to doing - or performing toxicological assays, did you have other responsibilities?

A. Well, the management responsibilities that accompany that. I had to - I'd say we had about twelve individuals working that area when I came, we being the RJR Company, and I - I built that up to, I'm guessing now - or these are approximations - to over fifty staff, and that grew even larger as I went on to that advance technology products area. So recruitment, expansion of scientific testing methodologies, the design and building of a facility for toxicology. And, you know, the director is one step below vice president, and there are administrative duties that go with that, budget, promotions, annual evaluations, interactions with upper management in other parts of the company to communicate what was going on, where we were heading.

Q. And who did you directly report to? Was that Wally Hayes?

A. That was Wally Hayes until 1990.

Q. How did you determine what toxicological assays were performed by the - by your department?

A. Well, it's easy to figure out what's going on when you interview the staff that's already in place, and they were headed, I thought, in a very good direction. They had three or four assays underway and in pretty good shape, so from that point forward I reviewed the literature, and I read thousands of articles, literally, on the testing of tobacco and cigarette smoke, and there was a timely article that came out late '83, early '84, by an individual over at NIEHS, Ray Tennant, who had done a summary of the literature, and we had most of what he listed underway, but then there were - there were beginning to be new findings and new approaches published, and I, with the help of my staff, evaluated those, took some of the ones that Dr. Tennant listed, and modified them for whole smoke because they were primarily for condensate only. And we evaluated some of the other cytotox and genotox assays that were out there, in other words, tests to evaluate effects on cells and tests to evaluate effects on DNA, and we evaluated a number of them for the appropriate application to tobacco condensate and smoke, and then we came up with some new ones entirely. So it was a matter of modifying what was in place, staying on top of what was evolving, and in some

cases, developing new assays.

Q. And if I were trying to explain sort of what you did to someone without a scientific background, would it be fair to say that one of the things that you did was to use animal studies to try to determine any link between smoking and disease?

MR. MCDERMOTT: Object to the form of the question. You may answer.

A. Well, that underlies part of the approach. The - when I was in the military, in the Washington, D.C., district, prior to coming to - going to the National Toxicology Center, a friend of mine, Dick Reesmer (phonetic), reviewed in animal work the approaches for tobacco smoke and condensates, and it was more complicated and a more difficult challenge that I had imagined prior to that presentation and discussion, and I had that embedded in my memory and experiences. So in - I knew when I began trying to develop more assays and modifying the ones in place that no one had been able to develop an inhalation model, a whole-smoke model that mimicked the epidemiology findings in cigarette smokers. Changes in the lung that had been described in people, some are present in laboratory animals; many are not. So it could be and we would love to be able to develop a model that would satisfy all those evaluating cigarette smoke. We've made progress, but we or

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no one else have gotten there yet.

The other main underpinning of what we were trying to do is, how do you compare the biological and toxicological effects of tobacco and cigarette smoke between different cigarettes and cigarette designs to see if you're making progress?

Q. Now you just talked about biological versus toxicological. Could you explain the difference?

A. Sure. I'd be happy to. I gave a presentation - I believe it was 1989 or 1990 - to the Society of Toxicology in Atlanta, and I was asked by their staff for their annual meetings to be one of their key speakers, to talk about biological and adaptation changes versus toxicological changes. You can have - for example, if you live at a high altitude, you can have a change in the number of red blood cells and the size of your heart that isn't considered toxicological. It's considered biological, and in all the many studies, as a pathologist and a toxicologist, I have been involved in at the National Tox Center, at the Department of Defense, at chemical companies and pharmaceutical companies, and at Reynolds, there are always changes that you know are probably the result of the method and not necessarily directly due to what you're exposing an animal to or a cell to, and there are changes that are created as a result of that exposure but are like changes

you see in other kinds of environmental situations. So there was a growing need for - at the national meetings, for people to discuss the two. So the board, the committee, the planning committee, had seen some of our publications on Premier and glycerol and other things and were familiar with my background and asked me to present a paper, and that paper talks about adaptation versus toxicity.

Q. When you came to Reynolds--- Let me back up. When you came to Reynolds, did you become aware of the organization called the Counsel for Tobacco Research?

A. Yes. It was - the first time I heard anything about it, it was called CTR, and then the acronym was expanded, and I probably heard CTR a couple of months before I knew what exactly it stood for.

Q. And what, when you first heard it, was your understanding of what CTR did?

A. They - my understanding, as explained to me by Bob DiMarco and Wally Hayes, was that like the American Petroleum Institute and other institutions, manufacturers, and industry contributed to a fund for basic research, and that was the essence of CTR. About January, February of '85 I was asked to attend a meeting because the speaker at one of the meetings was Dr. Barry Pearce, who was on a National Academy of Science project when I was at NCTR and I knew him personally. So my first visual interaction with CTR was to

go up there as an employee of Reynolds and to meet Dr. Pearce.

Q. And what was the - was there a difference between the research that CTR did versus the research that you were doing?

A. Yes. When I was there and I went back a second time just to get more acquainted with some of the scientists there, I was given copies of previous annual reports, and although much of our work was focused on basic mechanisms, it seemed to me all their work was based on basic research related to diseases of the lung and heart and many of the things attributed to smoking. Ours had more focus on toxicology and comparative toxicology.

Q. In 1996 did you become a board member of CTR?

A. Yes.

Q. Prior to 1996, other than that one--- Well, I guess you said there were two times that you went to CTR. What was - what were your contacts or interactions with CTR?

A. I may have interacted with them four times perhaps over the years. There were the two visits I've already described, and Dr. - I think it's Sheldon Sommers - I hope I have that name right - was the director previous to James Glenn, and he knew me, and we're both pathologists. At one time he asked me if I was going to be in New York, and I was going to be up there, and I dropped by to see him, and he

wanted to talk to me about funding some work at the University - the Children's Hospital and the University of San Francisco by a pathologist that the scientific board saw - of CTR saw outside their scope. It wasn't basic research enough oriented, but he thought it was good work, and he asked me to entertain talking with Dr. James Bennington and seeing if Reynolds might consider funding it, and, also, he had written a chapter in the new medical school pathology book that he edited, but he gave me a copy, I believe, of the textbook or made me aware of it. I don't recall, but he may have given me a copy. It had just come out.

Q. And what was Dr. Bennington's research?

A. He was noted for being a pathologist whose specialty was in muscle and kidney cancer, and he had helped publish a more robust and discrete classification and had seen the need to do that because he did have a background in pulmonary pathology too for lung cancer. A lot of lung cancers are misdiagnosed, or you can give them to a room of pathologists, and you'll get slightly different diagnoses. And he had achieved that for kidney tumors and for muscle tumors. He wanted to take a run at lung cancer, and the work he proposed to do would use electron microscopy, histochemistry, and a panel of internationally known experts in lung cancer and to take all the types of lung cancer that

are present - at that time presently diagnosed and see what this panel of experts in the electron microscopy and histochemistry would decide and publish that, and I thought it was good work, so we funded it.

Q. Did you keep abreast of what CTR grantees were doing?

A. Only - see, our role on the board - I think you're talking about since 1996?

Q. No. Prior to - prior to '96. I'm sorry.

A. I'd get their annual report and look it over, but it wasn't my role or the kind of board I eventually ended up on. They have a scientific advisory board that receives the proposals, ranks them, and prioritizes them as to funding, and that's their job to do that. So the only way I kept abreast, to answer your question, is to see, a year or two later, the annual reports.

Q. Okay. So now talking about from '96 forward, once you became a board member, what was your involvement in CTR?

A. Well, the board has to approve - that I was on has to approve the--- We're the board of directors. The other group was a scientific advisory board. We had to approve the budget, personnel, hirings, retirements, that sort of thing, keep up with expenses in general, and be updated just out of courtesy as to what work was underway. We also became informed about any scientific awards that recipients

won or who was nominated for a Nobel Prize and that sort of thing. One example is the team that did a most informative work on endothelin, a compound in the body that causes vasodilatation after vasoconstriction. They had been nominated and then received the Nobel Prize, and they keep us - that's one example, but there are a lot of examples where scientific research awards were given.

Q. From 1984 till when you retired in January of 2001, except for this interaction that you had with Sheldon Sommers concerning Reynolds' funding of Dr. Bennington's work, did you have any input at all into the research funded by CTR?

A. Not really, with one exception. The CTR had a big multiyear research project at Microbiological Associates, and Dr. Carol Henry was one of the main investigators, her and Dr. Couri. She had visited R. J. Reynolds in my early years several times, and she was going to publish and did publish this work and asked me and, I think, Dr. Hayes to critique her original manuscript, which I did, and she later thanked me for it. I think it was a Society of Toxicology meeting in San Diego when I saw her again face-to-face.

Q. So - but those are the only two---?

A. Well, the reason that was sort of an interaction was she had talked to Dr. Sommers and said that - was that okay to do that, and he said, "Well, sure. I mean they

can't be the referee of a journal," but scientists all the time ask colleagues and friends to evaluate a manuscript before it's submitted.

So Sheldon asked me about that one time when I was up there, "Are you comfortable with that?" and I said, "Sure."

Q. Do you remember who else was on the board, the board of directors, when you were on the board of directors?

A. Well, there was Andy Schindler, my boss, Alex Spears from Lorillard. I don't - I don't recall who the other person was from Lorillard. I don't know all the people there. Kathy Ellis from Philip Morris. Again, I don't recall the other personality that was there. B and W, Ernie Pepples was there, and Nick - I can't remember his name - from B and W. He was their CEO, like Andy Schindler was here.

Q. Other than the research funded by CTR's - we're putting that to the side - were you ever involved in joint research with any other tobacco companies?

A. No other - well, no. I was also on the board of CIAR, which had representatives from other companies, but I never was involved in any joint projects with them, to answer your question. Only through a board of director role, where other companies may have had representatives and we voted on stuff and did budget things and what have you,

if you want to call that a collaboration or an interaction, that would be the only one.

Q. Okay. But putting aside CTR and CIAR---

A. Uh-huh.

Q. ---there was never any time that you, for example, worked with a Philip Morris scientist on a project?

A. That's true. That's - that's true.

Q. Did you ever share information with scientists from other companies?

A. Only through the scientific meetings, if they attended, they would see them. I was also on the CORESTA board, which is a European organization, and representatives from Philip Morris International and BAT and things like that may have asked one of my scientists to give an update on what was going on in the States. I didn't make any presentations, but I would be there and hear the same thing they did, but I was never on any research and testing projects with them.

Q. Other than the grants administered by the Scientific Advisory Board, were you aware of any other grants funded by CTR?

A. I wasn't personally aware of them, no. I would not - as you have already stated, I was a member since '96 and saw annual reports from earlier years, and those projects through the SAB are all that I was personally aware

of and in contact with.

Q. Did you ever hear about research being funded by other than the SAB?

MR. MCDERMOTT: Object to the form of the question. You may answer it.

A. In previous depositions, I've heard about special projects. I don't know what they were, but supposedly, from what I heard in depositions like this, there were---

MR. MCDERMOTT: Dr. Burger, don't speculate and don't give hearsay.

THE WITNESS: Okay. Thank you.

Q. But during the course of your employment at Reynolds, putting aside what you may have heard at depositions, you never heard of special projects?

A. No.

Q. Reynolds, in addition to funding through CTR, also had contracts with research labs, is that correct?

A. Yes.

Q. What was the criteria that was used by Reynolds to determine whether they did the research in-house or through a research lab?

A. Well, the - there were several. Our workload. If we wanted to get some testing done and we didn't have time to get to it ourselves, we would go to outside labs that had done work for other industries that we were all familiar

with from interaction in our previous jobs. Litton is an example of that. They're not called Litton anymore, but they're in the Washington, D.C., area. Stanford Research Institute is another. Baettele Northwest is another. So there were other times we would ask a lab to test a product we had tested as an outside source and see if their results were the same as ours. This is a practice I had encountered at DuPont and Rohm and Haus as well.

Q. So I believe - and I don't want to misstate your testimony, but basically the criteria was sort of workload, and then also there were instances where you would sort of do it to double-check whether you got---?

A. See if they reproduced what we saw.

Q. Any other reasons for contracting with a lab?

A. Well, the word "contract" might not be the appropriate term, but for Eclipse and to some degree for Premier, we may go to medical school institutions and ask them to do a study in smokers with a new cigarette that we have, and we're not set up to do the kind of things they would do. We can do several assays and have repeatedly in smokers, but if the assay gets what they call "invasive," if there's a lot of blood work, bronchoscopies, or anything of that sort, then it's best done by a medical research institution.

Q. You indicated in response to my earlier question

that "contract" may not have been the appropriate term.

A. Well--- Sure.

Q. How did - how was it decided, and what was the form of the agreement?

A. Well, if---

MR. MCDERMOTT: Object to the form of the question. You may answer.

A. We would - for the series of studies on Eclipse, for example, I asked a board of experts that I recruited that had published in the field of clinical smoker studies to put together proposals to compare Eclipse, which was then called GTC, with other cigarettes that were in the market, and they put together approximately eleven areas of focus, and then we asked various institutions that have published to make a proposal and gave them a grant, which its only requirement is to publish what you find.

Q. Were there typically signed contracts that resulted from this decision to give a grant?

A. Yes. When an institution made a proposal and we funded it, they would sign a contract.

Q. And that was true for not only - you sort of gave an example of the medical school study. Would that have been true for research done by Litton or Stanford Research or Baettele Northwest?

A. Yes, I believe so. I think all of them had

contracts. I don't know of any exceptions.

Q. And typically how were the results of that research communicated to - back to Reynolds?

A. The investigators, when they - they might give us updates, you know, this procedure or this milestone of the project has been completed, to affirm that they were doing the work we asked them to do. Then when the report was done, in some cases they would make a final report to us and other cases they would wait until they submitted the manuscript and let us see that after they had sent it off.

Q. Did you ever receive drafts of reports or manuscripts?

A. Yes.

Q. And did you have an opportunity to comment on those?

A. Well, I would - I have a lot of experience in publishing, and I would make suggestions that I thought referees would make. I did not interpret results for them. I would ask them why didn't you address this or that in your numbers, in your statistics. I never wordsmithed their - you know, the nature of the grant was such that I purposely set it up so that I didn't tell them what to do as to publications.

Q. Was there ever - in your time at Reynolds that you were involved in this, was there ever an instance when the

result of the research did not result in a written work product?

MR. MCDERMOTT: Object to the form of the question. You may answer.

A. There - the only exception I can think of is, there is a written product - I haven't seen it - is the Wake Forest School of Medicine study. The investigators want to submit their publication prior to providing me a copy. They have a - they've told me the have a rough draft, but they would - you know, they want to send it off for publication before giving me a copy, which is fine.

Q. So - but that instance that you're talking about is because it's a current manuscript that hasn't yet been published?

A. That's correct. All the others that come to mind are - had either at least a written report and often publications.

Q. Based on your experience at Reynolds, are there documents that the research institutions that you had these contracts with would have that Reynolds wouldn't have?

MR. MCDERMOTT: Object to the form of the question. You may answer.

A. Yeah. I mean it's pretty common practice that unless we ask for the raw data, they keep the raw data in their records, so the data and statistics, we may not have

complete copies of those.

Q. Other than the raw data, would there be anything else that those institutions would have that Reynolds wouldn't have?

MR. MCDERMOTT: Object to the form of the question. You may answer.

A. I don't know what they would be. I don't know of them if the exist.

Q. When you worked for R. J. Reynolds, and now I mean sort of at any point during the - during the sixteen or seventeen years---

A. Uh-huh.

Q. ---were you doing research work for R. J. Reynolds Tobacco International?

A. Not per se, me personally. Dr. Suber's group, Dr. Borgerding's group would occasionally be asked to do chemistry or the contract toxicology work for them. The 1996 introduction of HiQ, which is Eclipse in Germany, they asked me to come over and talk with their minister of health about HiQ, which I did.

Q. But in terms of the--- Well, let me ask this: Was the HiQ sold in Germany the same Eclipse that was marketed in the United States?

A. There were minor differences. They were very similar. The configuration of the cigarette might have

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slight differences.

Q. Who did the research for HiQ?

A. Well, Dr. Lutz Mueller would use a similar model we did and had some chemistry done one place and some toxicology done at the University of Hanover. He had a hospital do some work in Augsburg after HiQ was introduced in that city, and he would keep me updated what was going on, but would use some material I used to present to the minister of health in Germany and a government official in Austria I forgot to mention to accompany his materials when talking to these researchers and/or getting updates from them, but I didn't personally go there with him.

Q. And who was Lutz Mueller?

A. He's an employee of GMBH, which is the German company.

Q. So in general is it fair to say that other RJR entities had scientists that did their research for them?

A. Yes. They'd do it on a fee basis. They would pay us like a contract lab to do some things, but a lot of their work was done elsewhere.

Q. Sort of taking the reverse of what I asked you earlier, were there instances in which domestic Reynolds, your employer, had research done by scientists at other RJR affiliates?

A. Not that I'm aware of. It's a little difficult to

answer with clarity this question because my predecessor, Dr. Carl Ehman, for a while had the R and D international group dotted-line to him, not solid-line to him, so I didn't get involved in that, but he knew what was going on with them a lot. I mean I got somewhat involved when they'd ask me questions, but I wasn't part of their management.

Q. But you didn't have - so you didn't have a dotted line going to you?

A. No. What I did have, out of courtesy, requested that Dr. Mueller, a relationship with him you could call a dotted line, but he'd update me on what's going on.

Q. But that was just sort of an informal professional---?

A. Yes. Yes.

Q. You mentioned a little earlier that you were on the board of directors of CIAR?

A. That's correct.

Q. And what was CIAR?

A. Center of Indoor Air Research is what the letters stand for, and it was an organization formed, I guess, in the early '90s and was funded primarily by manufacturers of cigarettes, but there were other sponsors, but the majority was by cigarette manufacturers, and we recruited a director and set up the mechanism for funding their work, which they had a scientific advisory board they went through, and I

guess, you know, I helped in the formation of it, but I probably was on their board less than a year.

Q. And what was CIAR's purpose?

MR. MCDERMOTT: Object to the form of the question. You may answer.

A. To do basic research in issues of indoor air quality.

Q. Was environmental tobacco smoke a focus of CIAR?

A. It was one of many.

Q. What were the others?

A. Sick-building syndrome; air pollution, like oxides of sulphur and carbon that can get inside, get indoors through the air control systems; allergies, dust allergies.

Q. And how - was the research funding process at CIAR similar to the research funding process at CTR?

MR. MCDERMOTT: Object to the form of the question. You may answer if you know.

A. It seemed to me to be very similar because their - Max Eisenburg was who became our director, and we had envisioned it to have a scientific advisory board. CTR has one. But he - that was a driver for him. He wanted to have one, and he would keep us updated, but he would - he recruited the board, and I think Dr. Lippman, Mort Lippman, was the chairman out of NYU, its first chairman.

Q. Do you remember who else was on the board of

directors with you?

A. Yes.

Q. Who was that?

A. Charlie Green from R. J. Reynolds; Osdene - Tom Osdene, I think his name was, from Philip Morris; and Bob Pages, Alex Spears, and Vello - Dr. Vello, I believe his name was, from Lorillard. B and W didn't have members at that time. I don't know if they do now or not. And Max as the director.

Q. And did you have similar responsibilities as a board of - on the board of directors at CIAR as you did at CTR?

MR. MCDERMOTT: Object to the form of the question.

A. In the very first few months, when proposals started coming in before Max had recruited his advisory board, as a pathologist, some proposals he had asked me to look at and comment on their quality. That - those that I looked at were, once his board got in place, reevaluated by the board, and they made a decision, and after that point the roles were pretty similar. It was still in its formative stages and didn't have the, you know, years of being in existence that CTR did, so they - as an organization, they - in the eighteen months or less that I was there - or it may have been fourteen months - I just

don't recall, but I watched them transition to a working scientific advisory board. After that point, I wasn't on the board very long after that, but CTR would have a scientist that was working on a grant, a research project, come in and report, and that was just starting when I left the board, so that became very similar too.

Q. You just said CTR. Did you mean to say CTR or did you mean CIAR?

A. CTR always - at our board meetings, always had one of the researchers that had finished their work present what they had found just as a courtesy to the board. CIAR had some projects that, you know, lasted six months or less that they funded, and there were just beginning to be a few investigators come in and report their findings, either interim findings or final findings, as a courtesy to the board. They had already reported to the scientific advisory board, but they would come in, if Max asked them, so that sponsor companies could see something was, you know, being done with their money; it wasn't just wasted.

Q. I just want to make sure that I'm understanding. You said that CTR researchers would come and present their findings to the CIAR board?

A. No, no. No. Like CTR.

Q. Okay. I'm sorry.

A. CTR would have at their board meetings an

investigator that had completed a study. It might have been one, two, or three years long. When they were done, usually submitted their manuscript, and they would come and tell us what they did with the money that came from CTR. In that same way I was beginning to see that evolve, but once I took over advance technology products in June of 1990, I stepped off that board.

Q. And who replaced you on the board, if you know?

A. Wally Hayes and Charlie Green stayed on it, and eventually I think Wally was replaced by Bob Suber, and I'm not sure when that occurred.

Q. Was anyone else from Reynolds involved in CIAR?

A. Guy Oldaker, before I got on to help organize it to help Charlie Green define what the scope and organization would look like in the early stages, as well as the Alex Spears and what have you, so - and in the very early days, there'd be a presentation on environmental tobacco smoke made by different researchers at different companies to those of us who represented each company, and Max would hear that and understand what had occurred in that area. For a period of time, we had Mary Ward be there not as a board member, but just as an advisor till Dr. Eisenburg got up and running and got their own legal advice as to contracts and issues of patents and proprietary issues. He got assistance from Mary Ward, and I think there was a guy there by the

name of Rupp. Yeah, I know there was a guy there by the name of Rupp, but I can't remember his first name. John Rupp, I believe it was. He was from Covington.

Q. And so both Mary Ward and John Rupp were attorneys?

A. Yes, the attorneys helping with contracts and what have you.

Q. And Mary Ward works for or worked for Reynolds?

A. Uh-huh. She was not a member of the board, but she'd be there to help the board members and Dr. Eisenburg until he got his own legal assistance.

Q. And so Max Eisenburg was in charge of CIAR?

A. Yes.

Q. And did he run it on a daily basis?

A. Yes. Worked for the public health department at Maryland before he went to CIAR.

Q. Do you know, during the time that you were on the board of CIAR, what percentage of its budget was directed towards looking into environmental tobacco smoke, as opposed to other causes of other indoor air?

A. I don't know the exact figure. It was at least half.

MR. MCDERMOTT: When you're moving to a new topic or when it's, you know, a convenient time for a break---

MR. ELLISON: We can take a break now. That's fine.

(Thereupon, a recess is taken from 10:12 a.m. to 10:20 a.m.)

Q. We are back on the record, and I'm going to show you what's been - what we'll mark as Burger 1.

(Thereupon, Deposition Exhibit Number 1 Burger is marked for identification.)

Q. Have you seen this? Take a second to look at the document.

A. Okay.

Q. Have you seen this document before?

A. I believe so, yes. It's been a long time ago, but, yes.

Q. Do you recall or did you attend this planning conference?

A. Yes, uh-huh.

Q. And what generally was the purpose of the planning conference?

A. Well, as I had told you earlier, the - we had anticipated putting together this thing called CIAR, so this was okay if we're going to do this, what does this look like, you know, what's the areas, what's the objectives, et cetera. Environ was - had two individuals there. Larry Fishbein was a friend of mine from years past at the

National Tox Center. He was there. And these were just - you know, like it says, a planning conference, but in essence, what's going on, what are the areas of future research, et cetera. So I helped recruit Larry Fishbein and his colleague there because of my familiarity with him. Other individuals knew other scientists that were present there.

Q. And I apologize. A little bit remiss, but just so the record is clear, for purposes of identification, what's been marked as Burger 1 has at the first - at the top of it "CIAR Planning Conference Agenda," is that correct?

A. Yes.

Q. And it has a beginning Bates number of 5154 1804, is that correct?

A. Uh-huh.

Q. And it's a---

MR. MCDERMOTT: I believe it's 51554.

Q. I'm sorry. I misspoke. Mr. McDermott is exactly correct.

A. I dropped a 5 also when I looked at it.

Q. 51554 1804. And it is a three-page document, is that right?

A. Yes.

Q. Two of the individuals that you mentioned before, Mary Ward and John Rupp, are listed as discussion leaders on

this document, is that correct?

A. Uh-huh, that's correct.

Q. What was their role as discussion leaders at this conference?

MR. MCDERMOTT: Let me interject here. You can respond to the question in just a moment, but I want to make sure in responding that you do not disclose any legal advice or anything that would be considered confidential, if any such advice was given. With that admonition, you may answer the question.

A. As it says, they were discussion leaders. They would ask questions, and all of us, the - myself, Charlie Green, Alex Spears, some of these folks that were in sessions had discussions also, but they were called presenters, not, you know, discussion leaders, but we had decided that there had been research - corporate funded research institutions or funding organizations for basic research, and what are the legalities, you know, not-for-profit versus, you know, for-profit patents, as I mentioned earlier, proprietary issues, because you could have a lot of the work funded by - I mean funded at an air ventilation company, building engineer companies, because you're talking about air quality, and what are the issues around if they develop a patent from the work you've funded, you know, what are the legalities and issues of that, how,

in any organization of an industry, that they help fund together, how to stay away from antitrust issues, that sort of thing. They - these two individuals were very familiar with ETS issues too in the nature of their past jobs.

Q. And let me just sort of reiterate what Mr. McDermott said. If I don't say it at the outset of a question, I don't want to inquire into attorney/client privileged communications that you would have had with counsel for R. J. Reynolds during your employment.

A. Uh-huh.

Q. So when I - when I ask a question about a topic, if part of the answer would involve that, what I'm interested in is the part that doesn't.

A. Uh-huh.

Q. Let me show you what we'll mark as Burger 2. For some reason, I only have two additional copies of this.

(Thereupon, Deposition Exhibit Number 2 Burger is marked for identification.)

(Thereupon, the witness reviews the aforementioned document.)

Q. And just for purposes of identification - well, let me ask you first, have you - have you seen this document before?

A. I believe I have.

Q. And let me just represent on the record that

52649 0381

attached to - well, that Burger 2 is a three-page document. The first page is a Reynolds document. The second and third pages are the bibliographic information concerning the document from the R. J. Reynolds internet web site, and so I when I asked you if you've seen the document, I mean actually the first page, not the second and third pages.

A. Yeah.

Q. And what is what's been marked as Burger Number 2?

A. It appears to be an agenda for an August meeting in Kansas City.

Q. And who is this - who is this letter from?

A. I don't know who Donald Hoel is. It says at the top Shook Hardy, so it may be he's someone at Shook Hardy.

Q. But you are listed as a recipient of this letter, is that correct?

A. Yes, uh-huh.

Q. Did you have input into the agendas of CIR meetings?

A. Some of them. I don't think I did on this particular one.

Q. And if you wanted to add an agenda item or suggest that something be discussed, how did you go about doing that?

A. I would have let Charlie Green know. He was the point person. He had been with this plan and this

organization that eventually became CIAR a little longer than me.

Q. Did you have direct contact - other than at the board meeting of CIAR, did you have direct contact with the other members of the board of directors?

MR. MCDERMOTT: Do you - is there a time frame in mind?

Q. While you were on the board, which I believe was from '88 to '89.

A. We might have a discussion on the phone, like, Alex Spears, Charlie Green, and I. I don't know - I don't recall any discussion with Osdene and Pages about this meeting or other CIAR affairs.

Q. And with the exception of reviewing certain research proposals in the sort of start-up phase of CIAR, other than that, did you have any input into the research that was funded by CIAR?

A. Other than that, no. I mean, you know, you vote as a member, does this look like a good proposal you want to take to the SAB at that very earliest phase of their life, so you would evaluate them, you would prioritize them from your perspective, as a board member, but that quickly, as far as I know, disappeared because it was - Dr. Lippman and his committee were getting going pretty fast after everybody was recruited, and I didn't have to do that anymore, or

other scientists. I was, at that time, the only person with a lot of biology background, a lot of toxicology and pathology background, so Max used my background for evaluations. They were all - it was a preliminary thing, best I can recall, before the advisory board got going. I didn't need the extra work, so those things take a long time to read and evaluate, so I was glad when Lippman and company got going.

Q. And once they got going, it was your understanding that all CIAR research was funded through the scientific advisory board?

A. Based on our priority of what they recommended fund and not fund. That's what was happening as I left. I mean I don't know what happened after I left, wasn't there anymore.

Q. And how were you selected to be on the board of CIAR?

A. Charlie Green felt strongly that I should be on the board with my background and asked Dr. Hayes to ask me to be on it.

Q. And you stopped being on it at the point that you got---?

A. Went to advance technology products.

Q. And that was because of additional responsibilities?

A. That. I also have a bias. I mean, you know, I was just one person on the board, but I think that people that are involved in product development of brands, which I soon began to do, it's better that other people more functionally rooted in basic research and testing be on there and not me. It is a personal opinion, but---

Q. Okay. We're - I think we're finished with Burger 2, so if you want to put that aside.

A. Okay.

Q. I'd like to talk for a little bit about nicotine.

A. Okay.

Q. Nicotine in cigarettes - nicotine levels in cigarettes generally follow tar levels in cigarettes, is that right?

A. Generally.

Q. What happens when you lower the tar in a cigarette with respect to nicotine?

MR. MCDERMOTT: Object to the form of the question, but you may answer.

A. Typically, the nicotine goes down as well. There's a point at which they don't go down equally. If you get down to real low tar levels, you may lose a one-to-one or one-to-one-point-one kind of relationship.

Q. When you say really low levels, would those be, like, levels of ultralow-tar cigarettes?

A. Yes.

Q. So in an ultralow-tar cigarette, speaking generally, what is the relationship between tar and nicotine?

MR. MCDERMOTT: Object to the form of the question. You may answer.

A. Well, there's a variety of ways to answer that in terms of vernacular. Tar-to-nicotine ratio, as you go down in tar level, you may leave fifteen and sixteen tar-to-nicotine ratio, fifteen times the tar as the nicotine. It may be more, you know, like eleven or twelve to one in the ultralow-tar areas, so it's not exactly the ratio it is as you go down lower in tar.

Q. Based on your experience at Reynolds, what role does nicotine play in a smoker's satisfaction with the cigarette?

MR. MCDERMOTT: Object to the form of the question. You may answer.

A. Your question was, based on my understanding. I, as a biologist with a lot of other areas of experience but not expertise, can only answer the question from that perspective. Nicotine is important for taste. It's important for mouth feel. It has some physiological effects that I've heard smokers describe as important to them, relaxation, stimulation.

Q. Can a cigarette have too much nicotine?

A. Yes.

Q. And what happens?

A. It tastes real bad.

Q. How about too little?

A. It can - because it does play a role in taste, it can be too bland if it has too little.

Q. And different blends of tobacco will yield different amounts of nicotine in a cigarette, is that right?

A. Well, they could. You know, American blend, as it's called, is burly, flue-cured, and Oriental, and burly, per gram of leaf, may have more nicotine than flue-cured, and flue-cured may have a little more than Oriental, but they are included in different ratios in a blend, different spans of ratios. So if you're knowledgeable about leaf, taste, and the outcome of these blends, you can guess with reasonable certainty about where the yield will be.

Q. In your experience at Reynolds, did you come across cigarettes that were in development that had too much nicotine?

A. Well, compared to its tar, in development we tried - in my advance technology products group, we tried to abide by the public health officials in Europe and some scientists here advice to find a satisfactory-tasting cigarette, satisfying as to taste that had ten-to-one or

less nicotine ratio - tar-to-nicotine ratio. That advice is in a variety of documents, the Hunter and Froggett Committee, the SCOTH Committee in Europe. Some of the early Surgeon Generals' Reports mentioned approaching a 10-milligram tar and a 1-milligram nicotine ceiling. Dr. Gori, who worked in those days for the National Cancer Institute, advised that direction. Dr. Russell in England was a big proponent of that, Dr. Thoureau in Munich. And the problem had been attempts to do that make a very harsh-tasting cigarette, so, to my knowledge, no one has been able to figure out how to get that ratio without the cigarette being too harsh.

Q. And in terms of trying to soften the harshness of the taste, what efforts, if any, did you or people at Reynolds take?

MR. MCDERMOTT: Dr. Burger, before you respond to that question, since I am not intimately familiar with all of the commercial sensitivities that may be involved, if there comes a point where we are getting into matters that are still commercially sensitive, please alert me and we'll take appropriate steps under the protective order, but beyond that, respond to the question.

A. Okay. We obviously tried different approaches with blending; if we had more Oriental or more flue-cured,

less burly, would that suffice. We evaluated and had some patents on approaches with natural constituents of leaf that might offset, because they're organic acids, the alkaloid nature of nicotine. I won't say which ones because that is proprietary, but they were leaf constituents naturally in tobacco.

Let me think a minute here. We looked at our reconstituted sheet; could you reapply what's naturally lost as to nicotine back on the reconstituted sheet and not get too harsh with some additives that are used in the industry, but which ones we evaluated, I'd rather not say for competitive reasons.

Q. I probably wouldn't understand, so---

A. They - we weren't able to find one that smokers liked when they tasted them. We didn't market any of those, but, you know, we certainly had the intent, if we were successful, especially since portions of the public health community thought it was a good thing to do.

Q. Now this ten-to-one ratio, the ten milligrams of tar/one milligram of nicotine, what was the importance of the level of - maintaining that level of nicotine?

MR. MCDERMOTT: Object to the form of the question. You may answer.

A. Well, Dr. Russell is a good example. He felt like if smokers aren't satisfied, they won't try lower-tar

cigarettes. I have become friends with him over the years and had good discussions with him. He and Dr. Gori and Dr. Thoureau at Munich all have similar mind-sets. If you make a low-tar cigarette with too low a nicotine, smokers won't like it and they won't buy it over a long period of time. So nicotine, as I listed earlier, has roles in the taste, the mouth feel, the sensation, therefore, of tobacco, and as a consequence, if you have too little of it there, it's unacceptable. If you have too much there, it's got too much impact, too much harshness, too much bitterness, some people say, but they feel like lower-tar cigarettes, which is a good thing to do, would be more acceptable if you could maintain the nicotine.

Q. But in terms of taste and mouth feel--- Well, let me back up. At ten to one, ten milligrams of tar/one milligram of nicotine, the problem is that it's - the cigarette has a very harsh taste, is that right?

A. Yes. Yes.

Q. So couldn't you address the taste and mouth feel issues with this cigarette by reducing the amount of nicotine?

A. But then how do you do it without becoming too bland? See, when you say ten to one or less, which is their recommendation, they feel that you can't lower the tar any further unless you maintain the nicotine such that the

numerator, the ten, is a ten or less - nine, eight - and the denominator is kept at one. So the ratio, whatever the tar level is and whatever the nicotine level is, should be around ten to one or less. If it's - if it's more than that, it doesn't have enough nicotine versus the tar to be taste-acceptable. If it's less than that, the challenge has always been it's too rough, it's too harsh.

A company in Europe, Rothman Specials, came out probably late '80s, and it was abiding by the Hunter Committee and Froggett Committee's advice, but it didn't succeed because it was just too harsh.

Q. Just so I make sure I understand, if you held the tar at ten---

A. Right.

Q. ---ten milligrams, and you took the nicotine from point - or from one milligram to point nine milligrams, would that cigarette be more or less harsh than one that had ten-to-one ratio?

A. Okay. It would be less harsh if - because, see, you're - you're messing with the denominator now. So today there are cigarettes on the market that are successful that are ten milligrams of tar, but point eight milligrams of nicotine, so you've lowered that down, and that ratio is fine, but, see, that makes the ratio thirteen, fourteen to one because you've got a decimal point, a fraction, in your

denominator. So then the ratio is not - in the way they discuss it, it's not less than ten to one. It's more than ten to one. It's more like twelve, thirteen to one because if you move up proportionally the point eight to be a one, you move up the ten to be a thirteen or a twelve-and-a-half, or whatever.

Q. But for purposes - for purposes of taste and mouth feel---

A. Yeah.

Q. -- that cigarette's okay?

A. Yeah. Yeah.

Q. So presumably the public health officials in the Froggett Committee that you were talking about, their complaint about that cigarette, the ten to point eight or point nine---

A. Yes.

Q. ---is that it wouldn't provide enough of the physiological effects?

MR. MCDERMOTT: Object to the form of the question. You may answer.

A. They're trying to advise the industry to get below ten milligrams of tar in a popular cigarette, and in the ultralow-tar cigarettes, the seven and below and especially the three and below have a very small market share. The - you add all of them up, from one to seven, and they probably

have five-and-a-half percent share of market, something like that. I'm guessing. I'm not a - I don't follow the statistics.

MR. MCDERMOTT: Don't guess, Dr. Burger. If you can approximate, feel free to do so.

A. Well, that's an approximation.

MR. MCDERMOTT: But don't guess.

A. It was around that at one point. I just haven't kept up with it. So a better way to state it, at one point in time, it was there. The ones that you're talking about have a fairly substantial market share, but the health officials would like to see the tar lower in those popular brands. So the ten is too high in that ratio for them. They'd like to get it lower.

Q. And the reason that the - why is the ratio between tar to nicotine important to the public health community?

MR. MCDERMOTT: Object to the form of the question. I'm sorry. I didn't mean to cut you off.

A. Well, medical scientists, toxicologists, biologists, what have you, think dose is very important, and if you lower the dose, you lower the risk or the toxicity in a laboratory setting, so if you have less tar, it's good, but if people don't buy it, it hasn't done any good. So they would like to eventually work down the tar ceiling. I mean ten is a milepost. That's where the SCOTH Committee,

which is a successor of the Froggett Committee, are today, but I think they'll move it down with time as a ceiling. The Surgeon General, in one of his late-'80s reports, suggested ten be the ceiling here. These individuals that I've listed understand, including the members of the committee, that if you don't maintain the nicotine yield, where it is for ten, eleven, twelve, thirteen-milligram cigarettes today, smokers won't like the taste of the cigarette or the "satisfaction," quote, unquote, they derive from that cigarette.

So how do you get---? They recommend that we pursue, since the '80s, you know, finding a way to get that ratio down so that we can lower the sale average - sale-weighted average of tar levels.

Q. But in terms of - in terms of the--- Strike that.

And in the public health community, generally, tar is a shorthand for the bad part of cigarettes; is that fair?

A. It is - it is in many parts of the public health community. The more people are informed and experienced with cigarette constituents, they have recognized at vapor phase the nontar portion is also important, not as important as the tar, but also important.

Q. And that's why whole-smoke studies are better than particulate studies?

A. In my opinion, yes. I think - well, it's

necessary to do both, but personally, as a pathologist and a toxicologist, I am keenly interested in whole-smoke studies.

Q. So if you - but if you hold the tar level constant at ten and you reduce the nicotine to - from one milligram to point nine, point eight, point seven, you get an acceptable-tasting cigarette?

A. Yes.

Q. And a cigarette that's commercially successful?

A. So far. The more successful ones seem to be in that range. They might be twelve, thirteen, and point nine, ten point seven five. You know, that area seems to be the window, the best of my recollection.

Q. And if you smoke - and tell me if this - you can do this, but if you smoke five cigarettes with ten milligrams of tar to point eight milligrams of nicotine level---

A. Uh-huh.

Q. ---and you smoke ten cigarettes with a ten-to-one ratio, you're going to get the same amount of tar?

MR. MCDERMOTT: Object to the form of the question. You may answer if you can.

A. To evaluate tar exposure, say, in the lungs of a smoker, to estimate that or calculate it, you would have to look at the number of cigarettes they smoked, the tar level and yields, FTC yields, or whatever method one employs, and

compare five cigarettes of one to five cigarettes of another, you would on average get less exposure to tar in that ten-to-one cigarette, I would predict. There haven't been, over a group - because that's not my expertise - that have done that because we haven't found one that smokes acceptably. So I would predict if you had one that was successful, that is, it tasted good, your average - because this is all over the board when you evaluate smokers - your average exposure would be less to tar.

Q. And why is that?

A. Your puff volume of those cigarettes with ten to one would be average or smaller, and so the tar yield would be less.

Q. Is that what's referred to as compensation?

A. Well, compensation, incomplete as it is, occurs in some smokers, but, yes, some of the folks that analyze this area could refer to that as compensation and how to minimize it with, you know, ten to one. That's another thing that they're interested in, is minimizing compensation on average.

Q. I'd like to talk a little bit generally about smoking and disease.

A. Okay.

Q. Did the state of the knowledge concerning the relationship between smoking and lung cancer progress during

the time that you were employed by R. J. Reynolds?

A. There certainly were more studies done, more areas. You know, as techniques became more sophisticated and advanced, then these techniques have been used in clinical settings, more since I arrived at Reynolds. I mean its expanded. That outside research that I mentioned earlier, I became aware of these people, these scientists, on the basis of new work they had done, so - and that had occurred, much of it, since I came to Reynolds.

Q. You said that there were more studies done. I guess my question is, more is not necessarily better?

A. Right.

Q. Did the state of the knowledge actually move forward?

A. Yes, I think so.

Q. So when you retired from Reynolds, was smoking a risk factor for lung cancer?

MR. MCDERMOTT: Object to the form of the question.

A. Smoking was and is a risk factor. There are other risk factors for lung cancer. Fat in a diet, sedentary lifestyle, all these have been reported. There have been more and more studies in the nonsmoking risk factor areas published in the later years of my tenure at Reynolds. I'd see more and more of it with time. Some of the

epidemiological studies and models with biological markers employed began to be applied in nonsmoking lung cancer cases toward, you know, the end of my career there. In the laboratory setting, we did some things that were new and now used by others in people as well as in lab animals. In people your mutagenicity is an excellent example. So looking at different attributes, smoking is a lifestyle, and the relationship it may play in the onset of disease has expanded.

Q. When you started at Reynolds, was smoking a risk factor in lung cancer?

MR. MCDERMOTT: Object to the form of the question.

A. Obviously, when I said it was when I started and still is, I mean, see, risk factor - population scientists, epidemiologists, and toxicologists that do risk analysis, it's a term of art. Risk, risk factor, before I came to Reynolds and after, has been used for smoking. It's been used for diet. It's been used for electromagnetic field, even electric blankets for testicular cancer in young kids, for example. They call them risk or risk factors. So then and now that term has been used, still is used by people well outside the industry. Every month I see publications. May of them call it a risk, a major risk factor, whatever. They use "risk" and "risk factor," many of them do. Others

say cause. I mean, you know, there's a variety of terms used.

Q. And is there a meaningful distinction between risk factor and cause?

MR. MCDERMOTT: Object to the form of the question. Compound.

A. To me, as a pathologist, there is a distinction, and I think to many epidemiologists, there is. All causes are risk factors. Not all risk factors are causes, if that makes sense. One list is bigger than the other.

Q. Is smoking a cause of lung cancer?

A. It probably is in some people. I don't know, and I don't know who does, who they are, and how that comes about.

Q. And would your answer be the same for - transport you back to 1984 when you started at Reynolds?

A. It would be similar. I probably - you know, the research area has grown, as I've already stated. I said then, it probably does in some people, but at least it may, was my vernacular, and I tended to start out with "it may," and then if a discussion ensues between two scientists, between a lawyer and a scientist, I would get to the "it probably does in some people." That has not changed other than work primarily out of the University of Minnesota in the late '90s and probably still going on up there has, to

me, shed a lot of light on genetic predisposition, and they feel that, according to their publications - no tobacco company has funded any of this - they feel that there's about seven percent of the people that are more prone to develop lung cancer due to smoking, to air pollution, to a wide variety of factors.

Q. Were you involved in developing the---? Strike that.

Did you have any involvement in the R. J. Reynolds web site while you were employed at Reynolds?

A. Yes, I did.

Q. And what was your involvement?

A. I would review and critique things that our folks wrote, as their boss. I didn't change much. I might have suggested more accurate terms in part of it. So my involvement was one of review, I think is safe to say.

Q. Let me show you what we'll mark as Burger 3.

(Thereupon, Deposition Exhibit Number 3 Burger is marked for identification.)

A. You want me to read all of this or---?

Q. Feel free to look through it. What I'll represent to you is my understanding of what this is, is a snapshot of various web pages from the Reynolds web site, and that snapshot was taken in March 19th of 2000, which is indicated in the lower right-hand corner, and I'll be operating under

that presumption when I ask you questions, and that's my best understanding of what it is. If you want to look through it, that's fine. I just have a couple of sort of specific questions, and I can direct you to those portions.

A. Okay.

Q. If you would flip over to the second page, which has the Bates number 52239 2017.

A. Okay.

Q. About halfway down the page, it says, "Our Philosophy," and then the first bullet point says, "We produce a product that has significant and inherent health risks for a number of serious diseases and may contribute to causing these" or "those" - I actually can't read it - "diseases in some individuals."

A. Uh-huh.

Q. Did I read that correctly?

A. Uh-huh.

Q. Did you have any involvement in that statement?

A. I was fine with that statement. It seemed appropriate to me.

Q. And what have you - was that statement true, in your opinion, from the time you started at Reynolds until you retired?

A. It was for me. I didn't conduct a census of opinions with others.

Q. Was there a discussion within Reynolds about the accuracy of this statement in connection with putting it up on the web site?

A. We had a meeting with scientists and part management where we discussed these statements and was everybody satisfied with them.

Q. And was there anyone that wasn't satisfied with that statement?

A. No that I know of. There may have been, but I'm not aware of it.

Q. Okay. If you could flip over for me to - I actually don't know what the page number in the packet is, but the Bates number is 52239 2026, and the topic heading is "Secondhand Smoke."

Q. Okay.

A. I'm interested in the second-to-last paragraph that says, "Despite the conclusion by a variety of public health organizations and government bodies, we do not believe that the scientific evidence concerning secondhand smoke establishes it as a risk factor for lung cancer, heart disease, or any other disease in adult nonsmokers." Did I correctly read that?

A. Yes.

Q. Do you agree with that statement?

A. Yes.

Q. What is it about the evidence concerning mainstream smoke that makes you believe that it may contribute to a number of serious diseases, that first part that we read---

A. Uh-huh.

Q. ---versus the evidence that makes you believe that cigarette smoking is not a risk factor with respect to secondhand smoke?

MR. MCDERMOTT: Object to the form of the question, but you may answer.

A. In medical schools of various kinds and in graduate training, most pathologists and toxicologists have biostatistics and epidemiologic training. Excuse me. I may be described as some to be from the old school, but many epidemiologists are there with me. Anytime you get a risk ratio, a relative risk ratio below three, you're getting into an area of very soft science. When you get down close to one, which it is for the ETS, there are - the accuracy of the statements as to whether a person was a smoker or a nonsmoker, there are other risk factors for both heart disease and lung cancer that could account for a two-tenths of one difference, and when the EPA came out with a report, they didn't say that the evidence was conclusive for cardiovascular disease, and the debate continues, and the work continues, but in the arena of lung cancer, they used -

and I have been a consultant to the EPA and FDA - they used a criteria, one-tail test, biostatistics that surprised me in the terms of their metanalysis. They threw out tests that had one or less risk ratio, and I listened to two of the fiercest critics of cigarettes and the tobacco industry excoriate them over that. I didn't participate in it. I didn't add to it. I didn't talk with those individuals before or after, but what they were fussing at them about is the biostatistics they used and when you use metanalysis, how accurate the questionnaires have to be, and they're down below - far below three. And so - and those were all printed up in the proceedings of the meetings, and that's where I am. I guess I'm as old-fashioned as they are.

Q. And who were those individuals who were fussing?

A. Ernst Wynder and Dr. Feinstein from Yale University. He's one of the best-known epidemiologists in the world and certainly in this country.

Q. What's the relative risk - or risk ratio for lung cancer in smokers, if you know?

MR. MCDERMOTT: Object to the form of the question. You may answer.

A. It varies from studies to studies, countries that they're in, and I don't know what the range is. I've heard eight to one, twelve to one, as that area, what I've read and heard in presentations most often.

Q. But well above three?

A. Yes.

Q. So what would it take to convince you that secondhand smoke is a risk factor for lung cancer in terms of relative risk?

MR. MCDERMOTT: Object to the form of the question. Calls for speculation. You may answer if you can.

A. I'd have to see some well-conducted toxicology studies demonstrate the biological feasibility of the doses smokers see, even in - and nonsmokers see around smokers in the worst situations and a well-conducted study that did a good job of controlling the nature of the people compared to each other as to age and demographics and life, other factors of risk. As Dr. Wynder and Feinstein both said at that meeting - it's called the Tox Forum meeting - I think it was '91 or thereabouts - you have to do continued follow-ups with those questionnaires, when you're looking back and doing a prospective, to continually assess whether some of your people said they were former smokers and never smokers or vice-versa and have something - you know, if you're going to use a questionnaire, which is obviously what you have to use, you have to have a very detailed one about their dietary habits and how they flourish or go away over the time you're studying, and if a relative risk ratio in

such a conducted study exceeded three, then I would reconsider my position.

Q. Did you ever suggest to Reynolds or CIAR that they undertake or fund a research project like what you just described?

A. I certainly didn't to Reynolds. I was - in the CIAR days, I would have welcomed such a proposal, but I was only there briefly, and that study is not basic enough for CTR. So---

Q. I think we are finished with Burger 3, so you can put it aside.

A. Okay.

Q. I believe in earlier depositions, you talked about leaving sort of basic research to the public health community, but I don't want to mischaracterize your testimony, so let me just---

A. Sure.

Q. That's what I'm looking for here by way of background. Do you review the research publications - or did your review the research publications of the public health community while you were employed by Reynolds?

A. Many of it, yes.

Q. Surgeon General's report?

A. Occasionally.

Q. EPA reports?

A. Occasionally, especially if they were in the peer review literature. I didn't - I didn't make - I didn't look at the federal register and those sort of things. I didn't follow those policy documents. I was more interested in research papers that were published in peer review journals.

Q. You indicated that you were a consultant for the EPA, is that right?

A. Yes. The NIEHS has the National Tox program under them. EPA is one of their sponsors. When I worked at - for the medical center and the University of Arkansas and I worked at the National Tox Center, EPA - it was a joint EPA and FDA lab. At the National Tox program, I don't know all the nuances of these agency cooperative agreements or how much of federal labs is EPA, FDA, and all that any longer, but there at the National Tox program, I served as expert review pathologist on what's called pathology working group a number of times. They would call upon my expertise about once every three to five years to be one of the main three to decide who got their pathology contracts for a three-to-five-year period of time, and the last time I did that was early 2000.

Q. And I believe in your earlier testimony in earlier depositions, you indicated that you had had some interactions with the FDA?

A. Yes, I have, uh-huh.

Q. And the FTC?

A. I have talked with some individual with the FTC over the years once or twice. My staff has gone and presented the FTC on Eclipse, for example, some of my staff years ago on various methods in addition to the FTC method that could be employed. Frequently, my staff has interacted with the FTC, less frequently personally on my behalf.

Q. Were your interactions also concerning Eclipse, your personal interactions?

A. It was actually more Premier.

Q. And your contact with the FDA?

A. Well, when I was - on two occasions I've been asked by senior scientists in the FDA to serve as a consultant for special projects like establishing a review board, a scientific advisory board. I've agreed both times, and both times they didn't get the funding. One of them was to help build some labs and design them and employ the methods as an oversight. The other one was to be on a scientific advisory board for pathology and toxicology. My staff has interacted with FDA people more so than me.

Q. And you mentioned Joe Gori at NCI?

A. Uh-huh.

Q. Did you ever work with Dr. Gori?

A. Never worked with him, no. I know him, have met with him, talked with him on a number of occasions, just

mainly at the Tox Forum. I've - he sent me a courtesy copy of his book he published last year, and I called him to thank him about that. That's the last contact I've had with him.

Q. Did you have any contact with him while he was working for the U.S. Government?

A. No. I was at the Department of Defense - actually, while he had that less-hazardous-cigarette program, I was still in veterinary school, so by the time I worked for the Medical Service Corps, he may have, by that time, not be working for the Federal Government any longer. I just don't know that much about his past.

MR. MCDERMOTT: J. P., when you reach a logical stopping point, if we can take a two-to-three-minute break, I would appreciate it.

MR. ELLISON: Sure. Why don't we just go ahead and do that now.

(Thereupon, a recess is taken from 11:20 a.m. to 11:30 a.m.)

Q. So we were talking about your contact with the Federal Government before we took that little break.

A. Uh-huh, yeah.

Q. Other than what we've talked about, the FDA, FTC, and EPA, have you had any other contact with representatives of the Federal Government while you were employed with

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Reynolds?

A. In my early years at Reynolds, a pathologist that I had worked with at Fort Dietrich called me up and asked me would I consider consulting for some studies they were going to conduct, and, if not, would I give him some advice, and they were studying artillery pollution, going to, radiation and smoking, and soldiers and artillery and perhaps some around radiation, and they were trying to employ a lab animal model that might evaluate some of this, and I told him that it wouldn't fare well for the powers that be in the Federal Government to see me, as a tobacco employee, help design a study for interactions of cigarette smoke, brass, and other metal dust and radiation, but I had some recommendations for him to look at, and reverting to some individuals that I helped him recall from our mutual past, that Doug Spark (phonetic) at Edgewood Arsenal on brass and inhalation studies, reverting to some folks out at Baettele Northwest, smoke studies and some of the publications of Baettele Geneva and what have you, and, you know, where he might look for radiation exposure. But I felt that he, in his duties and association with Los Alamos, had more to offer there than I did. So it was just a conversation on the phone.

Q. Tell me a little bit about the interaction that you had had with the FTC regarding Premier.

A. Best I can recall, they asked to meet with us because they had been petitioned, as had the FDA, to - about Premier, and they wanted to know, among other things, what studies had been conducted in addition to what was in the Premier monograph. They were aware of that. I think it had just come out. But they wanted to know all the other things that we could share with them about the development of Premier and its testing. Most of the testing is reflected in that monograph, but there were some prototypes that we decided not to market that had been tested, and they were curious about some of that information, so we met with them. I can't remember if it was late '89 or early '90. It was somewhere in there. I was one, Dr. Hayes, and Dr. DiMarco.

Q. And did you provide the information that they were interested in?

A. Yeah. I answered their questions and showed them parts of presentations I and others had made at Society of Toxicology, for example.

Q. Were there any studies done on Premier that - on the final product of Premier that weren't contained in the Premier monograph?

A. I don't know of any. There may have been. If they weren't there, they were published subsequent to the monograph. I just - I just don't know if a hundred percent of them were in the monograph, to answer your question.

Q. But either in the monograph or subsequently, they were all published?

A. Yeah. Yes.

Q. Was Premier in development when you came to Reynolds?

A. Yes, I think you could say that legitimately. In the early '80s the ancestors of Premier, if you will, the prototypes, had been refined and improved for taste, albeit not enough, but improved for taste. So when I got there, they were still - they had the basic design conceptualized and reduced to lab-scale products. They were still improving the taste and various versions being tested for chemical yields of smoke constituents and short-term toxicology tests. As they got refined and improved, things got to really moving fast, and most of the work that's in the monograph was - occurred after I arrived.

Q. As director of toxicology from '84 to '88, did you test Premier prototypes in your lab?

A. '84 to '90.

Q. '84 to '90. I'm sorry.

A. Yes, sure did. Sure did.

Q. What was your understanding of the goal of Premier?

A. Well, it was - in fact, I helped write the book's preamble, but it was to reduce the biological activity and

the chemistry and the toxicology of the Premier cigarette versus other cigarettes obviously, to make a product that was acceptable to consumers, and I lumped probably two or three of the - you know, one objective was a chemical reductions, another was the toxicity, another was the environmental tobacco smoke or secondhand smoke, and another was the - you know, and most importantly perhaps, the taste, acceptance.

Q. And Premier was not commercially successful?

A. No, it wasn't.

Q. Why not?

A. Honestly, I think we rushed it as a company. It just didn't have enough time to get all of its taste problems worked out. I also believe - you know, the feeling I had at the time--- We took it from the market is what I just said to you. Afterwards, working on Eclipse, I felt like the technology of Premier, the physical design of it, would never have worked, but at the time I just felt like we hadn't had enough time to work on it. It was rushed.

Q. Do you know how long it was on the market?

A. I don't remember exactly, you know. I don't think it was there quite a year, but it may have been. I just don't remember.

Q. And did Premier have health claims in its advertising?

A. Not in its advertising.

Q. Were there health claims other than in advertising?

A. Well, the results of the toxicity testing and the chemistry constituent testing were published, so it wasn't a health claim, but it was scientific results that show improvement.

Q. There are health claims in the Eclipse advertising?

A. Yes. They revolve around the potential to reduce risk, but, to me, that's a health claim, if you will. It's a reduction of risk potential claim.

Q. But there weren't comparable claims, whether you called them heath claims or reduction or just risk potential claims, in connection with the advertising of Premier?

A. No, there were not. Some critics of Reynolds considered a cleaner smoke a health claim and made that allegation, but that was not how the chemists and the toxicologists saw cleaner smoke. They were talking about in the laboratory setting and in the physical chemistry - chemical constituent setting. But after we went to Tucson and other places with Premier, we started hearing that criticism.

Q. The - and this is obviously not the correct technical term, but the numbers for reduced biological

activity, reduced toxicity, were more significant with Premier than with Eclipse, is that true?

A. In some cases they might have been greater reductions with Premier. In other cases they were greater with Eclipse. It depends on which assay you're talking about and which constituent you're talking about. It's a mixed bag. They're very similar in many ways. For example, the mutagenicity and cytotoxicity of the condensate in Eclipse is every bit as good as Premier. The whole-smoke toxicity is a little better for Eclipse than it was for Premier. Carboxyhemoglobin in smokers is less for Eclipse than it was Premier. Other assays, the reductions in inhalation in rodents is a little better for Premier, the changes. So it depends on which assay you're talking about. The vapor-phase reductions are greater for Premier than Eclipse. So it's a mixed bag.

Q. Do you know why Reynolds didn't make health claims in connection with the advertising of Premier?

A. I didn't want them to because we hadn't had enough variety of tests and work in smokers to make me feel comfortable with such a claim. I think that's the main reason Reynolds didn't.

Q. So the research supporting Eclipse is better than the research that supported Premier?

A. Yes.

Q. How so?

A. Well, we learned from our past mistakes in terms of taste and in terms of what - you know, what's beginning to evolve, and we wanted to do work at at least four medical centers, three or four, on various aspects of the markers in smokers that are contrasted with nonsmokers. So take smokers that are using one of the market products today and have them smoke Eclipse and have blood chemistry done, cytology of the lung field and the bloodstream, physiological markers like lung capacity and permeability of airways, things that have been published, some of which were published after Premier, by the way, and see, you know, with a grant, if they saw the contrast we saw in the toxicology studies, and if they did, then a health claim around potential to reduce risk could be substantiated. So that was the difference. It was state-of-the-art, and we amplified our process, our four-step process, before we would consider reduction of risk claim.

Q. I'm sorry. And, again, the four steps?

A. Chemistry, cell culture and in vitro testing, which means not in animals, animal testing, and clinical parameters in smokers. We have, as I'd call it 4(a) - have a panel of experts evaluate if where we think all the data nets out, if they agree with it or disagree with it.

Q. And so 1, 2, 3, and 4(a) were done in connection

with Eclipse?

A. Yes, 4 and 4(a). Yeah.

Q. And which of these were done in connection with Premier?

A. The first one, definitely; the second one, definitely; the third one, partially. We did no long-term skin painting with Eclipse. Before we could have gotten very far with that, it was taken off the market.

MR. MCDERMOTT: Dr. Burger, did you mean Premier?

A. I mean - I'm sorry - with Premier.

THE WITNESS: Thank you for the correction.

A. We didn't do long-term skin painting with Premier.

THE WITNESS: Thanks for my preparametal absentmindedness.

Q. And then the clinical parameters, 4 and 4(a), did you do either of those with Premier?

A. Yes, we sure did.

Q. Do you know why they hadn't done animal testing, long-term animal testing before marketing Premier?

A. We - I was in charge of that, so I definitely know why. We had done everything we knew to do with Eclipse, and - I mean with Premier, and with Premier we also had done markers for skin painting, a ninety-day study, so I knew approximately how the outcome would be in skin painting, but we hadn't started that up yet. We were beginning to hear

enough concerns and complaints from smokers about it that I didn't want to kill the animals needlessly and spend the money needlessly, so I didn't allow the initiation of that to take place. But the - our stewardship program, all the elements of it had been met and abided by in Premier, and Premier was probably the most extensively studied cigarette, chemically and toxicologically, that had ever been done.

Multiple inhalation studies were done, and we weren't set up to do, nor was anyone else, believe it or not, set up to do skin-painting studies at the time, and I felt it was wrong to hold up Premier as a choice for smokers to wait till we got geared up. It was a big surprise for me. The toxicology testing labs that do skin painting were far and few between, and none of them had experience with smoke condensate, so it was obvious we'd have to do it ourselves or wait two or three years and underwrite or finance a testing lab to get up to speed for it.

Q. Did you use any outside testing labs for Premier?

A. Yes.

Q. Which ones?

A. Litton Bionetics, which has changed its name several times. Baettele Northwest. In the early phases of prototype development, we'd use A. D. Little out of Cambridge. We used Stanford Research Institute on the West Coast. Some of the earlier versions of Premier we might

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have had, I just don't remember because Johnny Hayes and Sam Simmons did that. We might have had some means tests done at Microbiological Associates, but I don't believe we did. I just don't recall. I know I'm leaving somebody out. I just can't remember.

Q. That's okay. It's not a memory test. Other than the ones that you mentioned and the ones that you can't remember--

A. Right.

Q. --did anybody other - well, did anyone other than the research labs that you contracted with have access to the Premier - information about the Premier technology?

MR. MCDERMOTT: Object to the form of the question.

A. I want to make sure I understand the question. Obviously, if they did the work, they got - we gave them the cigarettes. We gave them the basic overall design of Premier in that exercise so they'd know how to light them on machines and all of that. We shared with them some of the chemical analyses because if they do cell culture work with the condensate, they had to have a feel for the chemical makeup, how much is glycerol, water, et cetera. So we would elucidate them as to physical - we would enlighten them as to the physical characteristics of Premier, and some of them included Oak Ridge Labs chemistry work. Ah, it's coming

back. And so we, in order to have them do work, would share some information with them, but the exact physical and chemical characteristics of the capsule and the heat source and all that, we wouldn't go into it with them.

Q. But did you try to keep the development in Premier technology a secret from your competitors?

A. Sure, in the early days, we certainly did. Once we got the monograph out there, a lot was revealed, if you will, and our patents would reveal a certain amount when they're issued.

Q. Other than, though, the sort of publicly available information about Premier, are you aware of any communications between Reynolds and its competitors concerning Premier?

A. I'm not aware of any. I didn't participate in it. You know, at scientific meetings, some scientists from other companies would say, "Well, you certainly surprised us with that one," that kind of language, but that wasn't - I didn't tell them anything about the---

THE WITNESS: Excuse me.

A. I didn't tell them any---

THE WITNESS: You're supposed to punch me. I'm not supposed to punch you.

A. I didn't tell them anything about chemical testing or product design or anything prior to it coming out, or

afterwards, for that matter. I just don't - I know from DuPont days and Rohm and Haus days, that's not a professional activity, I mean, you know, to be talking about the proprietary, sensitive subjects of your company with competitors. It's just not right.

Q. Once Premier was on the market and it became apparent that it wasn't doing so well, was there any discussion about making health claims in an attempt to improve the consumer acceptance of the product?

A. Yes. You know, Bob DiMarco and other senior members of the staff like myself would talk about what would it take to make at least a risk-reduction claim, which is, in a sense, a health claim like it is for dietary products, for fiber and what have you. And after Premier was pulled from the market, which I think is in your question, I championed the idea to have medical school studies done and got approval to proceed and the funding potentially. I mean once - once I got the studies proposed and agreed to be done by medical schools, then I wold be provided the funding.

But we had a breakthrough of a technology, and that's part of the reason I went to advance technology products in '90, and so we just put those on hold. We had some proposals from probably three or four medical schools, but we told them we didn't know when we would do these studies. It would depend on the future of tobacco-heated

cigarettes. So they were angst about not having the funding.

MR. ELLISON: I'm sort of at a logical breaking point. I can go onto my next topic or---

MR. MCDERMOTT: This is fine. Do you want to break for lunch?

MR. ELLISON: We can break for lunch now and---

MR. MCDERMOTT: That's fine. What time to you want to resume?

MR. ELLISON: Well, it's up to you guys. I mean I'm only going to be out for probably half an hour, but if you want to take more than that, that's fine.

MR. MCDERMOTT: Why don't we just say one o'clock.

MR. ELLISON: Okay. That's fine.

(Thereupon, a luncheon recess is taken from 11:55 a.m. to 12:59 p.m.)

Q. There was actually one question that I had about Premier that I forgot to ask before lunch.

A. Sure.

Q. Were the nicotine levels delivered in Premier comparable to the levels delivered by other kinds of cigarettes?

A. It's - it depends on which test, which method of machine yield that you would use. The FTC, they - it was comparable to the lowest end, maybe a little lower than the

brands now in Carlton. On fifty/thirty it moved up into the range more of the ultralow-tar brands like Vantage and Merit and - I don't know - maybe Kent, the ones that are four to five milligrams of tar, in that category. So in the blood levels of nicotine, which is what some people look at today, was the same or lower than most brands, including ultralow tar.

Q. But in your opinion, the failure of Premier was not because it did not deliver enough nicotine?

A. It didn't deliver enough taste. That might have been partially nicotine because of the role nicotine plays in taste. It was just not tasty enough or tobacco tasting enough. Either way you want to say it, it failed, either way.

Q. Okay. I'd like to talk a little bit about Eclipse now.

A. Like.

Q. And let me sort of just get them out there. I'll give you what we'll mark as Burger 4, and we'll mark this as Burger 5. And I, incidentally, have one extra copy of that.

(Thereupon, Deposition Exhibit Numbers 4 and 5 are marked for identification.)

A. Okay. Any particular page?

Q. I just wanted to let you - I mean I have some questions, and you don't need to read all of them, but let

me just ask first, have you seen Burger 4 before?

A. This first page, something to Pam Marion and "RJR - U.S. versus P.M., et al.," I have not seen that.

Q. Okay. So the first page, no.

A. And with the exception of the footnote labeled there and the page number at the top, I've seen these other pages.

Q. Okay.

A. Let me make sure, though, that that's true of all of them.

Q. If you could, flip over to what is the third page of Burger 4.

A. The third page?

Q. The third page. It says, "Here's the Next Best Choice" at the top.

A. Okay. Right.

Q. And then beginning in the text, it says, "A new cigarette that may present less risk. Extensive scientific studies show that compared to other cigarettes [colon]: Eclipse may present less risk of cancer." What does that sentence, "Eclipse may present less risk of cancer," mean?

A. Well, the changes in toxicology test and the lowering of carcinogens in the smoke and the reduction of changes in the toxicity test that are thought important as characteristics of smoke in its relationship to cancer are

greatly reduced with Eclipse. Hyperplasia and metaplasia in the lungs of rodents, great reductions in numbers of tumors by painting the backs of rodents, Wynder's original model, the reduction of all the major classes of carcinogens, some to nondetect levels, others eighty, ninety percent reduced compared to ultralow tar, and greater reductions compared to lights, lack of or very minimal mutagenicity in toxicity tests. Return of airways in clinical studies like Nebraska's Rennard's study imply that and show that the airways begin looking more like nonsmokers, as opposed to smokers. So all those are considered risk factors and signs of risk and signs of potential of cancer, so that's what that means.

Q. Why doesn't the advertisement say, "Eclipse does present less of a risk of lung cancer," based on what you just described?

A. Well, okay. A pet peeve of mine, I wish we had a lab animal model that we and other people believed was a good model of lung cancer and, in particular, reflects epidemiology results in smoker and nonsmoker studies. We don't have that. Nobody has been able to consistently produce or even ever produce lung cancer with cigarette smoke in rodents. I wish I had that model, and then the other part that I would like to have to feel that I could absorb any criticism as a scientist and the company that I

work for could withstand any criticism of scientists, a marker in people that everybody agrees is an early change that could lead to cancer. So if we had those kinds of models and then the studies to support that Eclipse wouldn't result in cancer in people that smoked only Eclipse, then I might be more comfortable with such a - you know, such a claim.

Q. Is it sort of fair to say that the "may" is if what we know - if what we think is true about smoking and lung cancer is in fact true, then it does, or we just don't know enough to say "does"?

MR. MCDERMOTT: Object to the form of the question.

A. To some degree, I would agree with that statement. If what - I would amend it to say if what we think and what the public health officials think is true, then this might result in less cancer, so in some ways "may" says that. In other ways it is just an acknowledgement that we don't have the right models, and not enough is understood about the mechanisms of lung cancer in general and the contribution smoking makes to the onset of lung cancer. You know, if that was better understood and established, then "may" might disappear. "May" might disappear; that sounds weird. "May" could disappear.

Q. So the studies that you referred to make you feel

comfortable that you can say "may" but not "does"?

A. Yes.

Q. And you don't - do you think you could make the same kind of claim that is made about Eclipse about other kinds of cigarettes on the market?

A. I don't know of any other cigarette on the market or in the marketplace that would fair as well across the board as Eclipse, so I probably wouldn't feel as comfortable. I wouldn't feel as comfortable. I haven't tested or my staff tested - my former staff - every cigarette out there in all these ways because Eclipse, in my mind, dethroned Premier as the most extensively studied cigarette ever. So I don't know of an ultralow-tar cigarette that today would fare as well as Eclipse does, so I'd be less comfortable with this claim.

Q. Let me ask you to flip over to what's - the heading is key scientific results, and the Bates number is 55 - I'm sorry - 52251 4656.

A. Okay.

Q. And I'm looking at the column that begins with "Lower Carcinogen Levels."

A. Yes.

Q. And it says, "The smoke from Eclipse displays an eighty percent reduction in overall yield of these fourteen compounds when compared to the smoke from a leading

ultralight cigarette," and then parentheses, ".13 milligrams versus .68 milligrams," period. Do you know how Reynolds chose a leading ultralight cigarette as the reference cigarette for that study?

A. Well, when these studies began and may have - it may have remained the leading lights in the tar category closest to Eclipse's FTC tar numbers, it was the leading seller in that tar-level category.

Q. And you chose that because it was the most successful?

A. They had the largest market share in that tar category, plus - and that's ultralow tar. It was the leading ultralow-tar cigarette, plus it was very close to the FTC numbers for Eclipse.

Q. Okay. Then under the heading of "Decreased Toxicity"---

A. Uh-huh.

Q. ---the bullet point that says, "Condensates [parens] (tar) made from Eclipse smoke produced ninety percent fewer tumors and resulted in eighty percent fewer tumor-bearing animals in mouse skin-painting studies where mice had been pretreated with a tumor initiator," and then there's a parens, "(DMBA - dimethylbenzanthracene)."

A. Benzanthracene. Excuse me. It's a mouthful. DMBA.

Q. Do you know what the reference cigarette was for those studies?

A. It was 1R4F, Kentucky reference.

Q. And is that an ultralight?

A. That's a light.

Q. It's a light. And what's the - what's the Kentucky reference ultralight?

A. I believe it's 1R5F.

Q. Do you know why Reynolds used 1R4F for the condensate, you know, the tumor testing, but the ultralight for the - the lower-carcinogen-level test?

A. Yes, there were several reasons. One is one of logistics. You'd have to have a lot more laboratory technicians working several shifts to generate enough condensate from a 1R5F, which is, like, eighty percent air diluted. So to get enough condensate to test in these high-dose skin-painting studies, you have to burn several million cigarettes to get enough condensate. My recollection is that it's four or five hundred thousand with 1R4F. The other reasons were that the 1R4F has been the most widely studied in skin painting cigarette out there over all the years. So in comparing your results per milligram of tar or per cigarette - and we compare both ways - it is the historical standard that you can compare to.

The third reason is that milligrams of tar, you use the same amount weight of tar painted three times a week on these mice, and so the chemical profile of a 1R4F per milligram of tar and a 1R5F is very similar. So as a result of all that, we felt 1R4F was the best overall choice. We did do some short-term skin-painting studies with the ultralow-tar reference cigarettes, 1R5F, 1R - I mean the leading commercial ultralight. It's the skin-painting study primarily and some of the inhalation studies with rodents that we tended to go to reference cigarettes like 1R4F because of all the knowledge about it in the scientific literature.

Q. After Eclipse was marketed, did you hear criticism - have you heard criticisms of Reynolds for using 1R4F, as opposed to an ultralight for comparison purposes?

A. We presented a lot of our work at Duke, and one visiting scientist, public health official, you know, suggested that future work be done with commercial cigarettes. We took his suggestion. We did some of the work since then, since '96. There have been - we have a committee called Tobacco Control. They publish their own journal. I believe that was mentioned in an article or two there. They tried, through several publications, to put forward all their criticisms and concerns about Eclipse, and I believe that was mentioned in one of those.

Q. Do you remember seeing a Massachusetts Department of Public Health study concerning Eclipse?

A. Yes, sure do.

Q. And do you remember sort of generally what the conclusions of that study were?

A. Yes. The - it was a very peculiar document, to me. They took part of the chemical constituent list and a method that they didn't use ever before or tell us to use, and it wasn't the Canadian method. It was a strange concoction of venting and not venting and puff profiles that I had never seen before, and they published it and said there are some cigarettes commercially available that have less of some chemical constituents than Eclipse. So we went back and redid everything and showed that one method only, one brand only, ours, Now, had less of some of those constituents. When you looked across the board, Eclipse beat even that Now brand everywhere else but that one method and that one method of vent blocking. We also did versus Carlton and Now, which is the brands they used in that study. We did a bunch of chemistry and short-term toxicity tests, and Eclipse killed all of them in that comparison, and that's being - that's been - part of that's been presented already, and it will be published this year.

Q. Let me ask you to--- Was there a discussion about making a secondhand smoke claim in connection with the

advertising of Eclipse?

A. Well, Eclipse's original entry into the marketplace in Chattanooga in '96 talked about less smoke, so it was talked about there. Let me look at this document that you've given me. Well, here in this document Eclipse reduces secondhand smoke by eighty percent, no lingering odor, on that third page.

Q. And was that considered a health claim?

A. Not by me. You know, smokers are - in my experience, and probably since the late '80s in my tenure at Reynolds, got more and more concerned about annoying others or upsetting other people because they might be exposed to their smoke, so we began hearing a lot of feedback that they would like cigarettes with less smoke off the lit end, less environmental tobacco smoke. So we had several projects and developed some products, used one on Salem in Minnesota, Salem Preferred. Used another blend in a prototype for International when we owned them, and when Tobacco International was part of RJR Nabisco, they were separate from us, but there was a point in time where they were under Jim Johnston as an entity, and during that time we developed one of these with Tobacco International. It was introduced in Japan and is still there. It's called Pianissimo. I don't know if the Salem Preferred with less sidestream smoke is still in the northern Midwest or not. I just haven't

kept up with that. And, of course, Premier, as stated in the monograph and their advertising, and Eclipse have reduced-secondhand-smoke claims, if you will.

Q. But it's---

A. That covers - we had a project called Vantage Excel, where we were trying to lower sidestream smoke, and I think we did a test market, but I can't recall. But its ash was too flaky, and people didn't like it because its ashes were too big a chunks.

Q. But the focus on reducing secondhand smoke is a sort of annoyance to nonsmokers?

A. And for people concerned about it from - healthwise or otherwise. That's - you know, smokers - we take their feedback and what they want in their cigarette and try to address them, and some of those smokers are concerned about, you know, what they may do at the risk of the health of those around them. I mean that's what they tell you. And so they'd like a cigarette with less secondhand smoke. So that - I've summarized our attempts to meet their request.

Q. If you could take a look at the - still on Burger 4, the Bates number on this one, the last four digits are 4653, and the heading begins "Important information about a new cigarette your patients may ask you about."

A. Right.

Q. This appears to be a form letter. Do you know whether any such letters - any letters like this were sent by Reynolds?

A. Yeah. To physicians in the Dallas/Fort Worth area, where the test market is - was. Any physician or health official that may call our web site or ask for the brochure could get it.

Q. And this is a letter from you?

A. Yes.

Q. What advice did you want doctors whose patients came to them with questions - what advice did you want those doctors to give their patients about Eclipse?

MR. MCDERMOTT: Object to the form of the question. You may answer.

A. Well, let me answer it this way, how I arrived at such a letter, you know, that I would write. We knew that a lot of criticisms that we encountered with Premier in their test markets and with Eclipse in '96 when we went to Chattanooga was local physicians felt uninformed, so we talked about, you know, maybe head of R and D or any of several scientists could write a letter and describe what Eclipse was all about. Then we worked with a group called Piedmont Medical, which is - they do tests with consumers of lots of things - hair, shampoos, cosmetics, across-the-counter drugs, et cetera. They're in this area.

And we did focus groups with doctors, they did, and some of my scientists were with them, like Bob Suber, and they did them in this area and they did them in the Dallas/Fort Worth area, and, you know, do you think physicians would like such a letter in case their patients asked about it, and, if so, what should it reflect. And this was a result of that.

So my thought about what I wanted out of this was, one, to repeat that quitting is the best alternative, which I do there in the first paragraph, and acknowledge once again that smoking is a big risk for these diseases and acknowledge what they've told me, whether they're in my family or circle of scientific friends that I have, that we know you have patients who continue to smoke, and as a result of all that, just like you to be aware of this in case they ask you about Eclipse.

Q. And did you ever have any contact with physicians who received this letter?

A. I had some letters sent to me, some thanking me, physicians. Others - I had a few letters saying they didn't want this material from - ironically from a couple of nurses, and some physiology exercise guy in Dallas wrote a letter, said he didn't want any of it. So I believe there were two nurses and one exercise coach, or whatever he was, physiotherapist. I don't know exactly what his background was. I got no MD letters like that, so---

Q. In terms of the studies that Reynolds did on Eclipse, they did smoke composition tests, is that right?

A. Yes.

Q. Test tube studies, in vitro studies?

A. Right.

Q. Rodent studies?

A. Right.

Q. And studies with smokers?

A. Yes, we did - or in the medical school studies scenario, the medical schools did.

Q. Were there any other studies that Reynolds did or commissioned, other than those types of studies?

A. On Eclipse and Premier?

Q. On Eclipse only. I'm sorry.

A. Eclipse. I think the earlier prototypes of Eclipse, we had some work done at SRI and Litton that were screening prototype kind of studies. Other than that, I can't think of any.

Q. Do you recall anybody ever suggesting other studies that weren't in fact done on Premier - I mean on Eclipse? I'm sorry.

A. Well, the studies that in '96 some were not done, our expert panel suggested we do more work comparing to commercial ultralow tars, so some of that work we did in response to the Massachusetts work you mentioned earlier was

already underway. Some people, when they first see the scientific package on Eclipse, wonder why we don't do a two-year inhalation study, and those show you the same results at ninety days as they do two years. As a veterinarian I have professional responsibility not to use animals needlessly or wastefully. If you do a two-year study, you have to use many more animals, and if your results, in my mind and most every scientist I know, are no different, a ninety-day study would suffice. We also, I think, have an obligation to give smokers a choice, so if we were to have done a two-year study, we would have postponed farther out the introduction of Eclipse for nothing. I mean it gives the same results.

Q. How many different versions of Eclipse have been marketed?

A. Two, in the United States.

Q. And one of those was in '96?

A. That's correct.

Q. And then a different version in 2000?

A. That's correct.

Q. What are the differences between the two?

A. Well, when we went to Chattanooga in '96, people told us they would like it to have less carbon monoxide, and scientists advised us that way and to make it light easier. So the configuration of the holes and some other things that

are proprietary allowed us to lower the carbon monoxide yield and the carboxyhemoglobin in smokers and make it easier to light.

Q. In terms of the health claims that are made in connection with the 2000 version of Eclipse, do you know of anybody at Reynolds who said, "We can't make these claims because they're not substantiated"?

A. No, I don't. I don't know of anyone. You have to understand that any of these claims as to quantitation originated from R and D, so we agreed with these figures long before anybody in Dave Iauco's marketing group could use them. So that's why you wouldn't have, or at least I wouldn't know of, if someone felt that way. They had ample opportunity to speak up and they didn't.

MR. ELLISON: Actually, I think--- Could we go off the record for a second.

(Discussion off the record.)

MR. ELLISON: Just for the record, what had been marked as Burger 5 has been withdrawn because I didn't have any questions about it.

Q. You just mentioned the marketing group and Dave Iauco?

A. Uh-huh.

Q. What kind of contact did you have with folks at R. J. Reynolds in the marketing department during your time

there?

A. Well, when I was executive vice president and senior vice president, I was on the executive board. All of the CEOs, direct reports meet every Monday. So head of marketing, Lynn Beasley, and I would typically see each other on those mornings. We would have quarterly meetings, sometimes once every six months, to review our projects in R and D for our clients in marketing, whether it be brands or whether it be Eclipse in product development, because advance technology products got renamed. Anything that marketing would someday have as a brand style to test-market and sell, we kept them abreast of all that was going on.

In the case of Dave Iauco, he and I would meet about once a month. We had - I'd say 1998 through early 2000, we had a cross-functional team headed up by a guy from operations who was in charge of manufacturing Eclipse. He came forward to me with some of my staff and later to Dave Iauco and said that he would - as in a week later, said that he would like to take the responsibility of forming such a committee to keep everybody abreast of what's going on in everybody's area. Sounded good to me. Sounded like it would save some meetings, and it did for me. So Dave and I would be the recipient of that team's output, you know, where are we today with Eclipse, et cetera. Dave and I would meet on occasions. Dave would make me aware of any

comments from the marketplace he felt dealt with R and D issues through himself or one of his staff. I asked - I did, personally - Dave Iauco at times to present to our scientific board so they'd know where we were going in those claims and see if they agreed or disagreed, and I asked him to talk with the FDA, along with my scientists when they were met with. Those were my requests made personally to him.

Q. Did anyone from marketing ever come to you or your staff and say we'd like a cigarette that has these qualities? And, you know, they could be any number of qualities: We want a mild cigarette or we want this kind of cigarette, that sort of thing. Did you have those kinds of conversations?

A. Yes. They had - they'd have interfunctional teams and change their names over time that were cross-functional, and they would come up with suggestions on new brands, and then usually it was - Lynn Beasley and I would discuss them. When I was head of advance technology products, she was head of new brands development. When I was head of R and D, the people in Skip Tinsley's brands area, if they would get a request or learn of it simultaneously, because they'd go to focus groups with our franchise and they'd say, you know, "This Winston is great," like you mentioned in example, smoother, had a few focus groups results in that, and I

haven't talked to the people at R and D since January, but I did ask Mr. Tinsley in early March, did - I've seen some advertisement on a new brand style for Winston and it seems to be smoother, and he said, "Yeah. That's what the franchise wanted." So marketing - Skip's person, Denny Potter, and the marketing correlate, Ned - I can't remember Ned's last name, the head of Winston - they would have discovered this together because they would have been at the focus groups together more than likely. I mean there are other ways you can find out about it, in writings and stuff, but - so S-2 came out of that. R and D developed a product for them.

Q. And so if they come back and they say, "We'd like this smoother," then what does - what does R and D do?

A. Well, they can redo the recipe of blending, and in this case look at lower tar levels. I mean they can look at lower tar levels. There are a number of things you could do, some of which I'd prefer not to share in front of our friend from Lorillard down the table, although he may know them.

Q. No free information. In general, to make the cigarette smoother, you reduced tar?

A. You can do some things with filter efficiency. You know, some additives, flavorants can make something smoother.

Q. How about milder?

A. That too. That's - for many smokers, that's the same thing, milder and smoother. For some smokers, smoother, in my experience, is sweeter, as opposed to - so you kind of have to dig in when you're talking with them, you know, "What can we do to make your cigarette better for you?" and when they say things like "smoother" or "milder," you have to ask them a few more questions, whether you mean sweeter, do you mean less strong, do you mean not so harsh, you know. So sometimes smoother - your point is well taken - means to some smokers milder.

Q. Have you ever heard the term "younger adult smoker"?

A. Well, yeah, sure have.

Q. In what context?

A. In any discussion younger adult smokers means, to me, when I hear it, someone greater than twenty-one, probably younger than thirty. And we have done focus groups as a company with - by decades, twenty-one to thirty-one, thirty-one to forty-one, forty-one to fifty-one. I have heard "younger adult smokers" be used in that reference.

Q. Has anyone from marketing ever come to you and said, "We need this product to appeal to a younger adult smoker" from the R and D standpoint?

A. No, not - they didn't - no, they haven't come to

me and asked for such a thing. There had been at least one incident that I know where they would talk about the average-age smoker wants a lower-tar, smoother cigarette in the marketplace today. A younger, average-age smoker is probably mid-thirties, on average, so the range would be twenty-one to forty-one plus, fifty-one plus, and we've had projects like XB, which we haven't talked about, but for that lower-tar, milder, smoother cigarette.

Q. And is XB the Winston Select?

A. Yes - no. No. That was--- I'm sorry. XB was - Winston Select was a carbon-filter cigarette introduced in Oklahoma City.

Q. Okay. So what was XB?

A. XB was a product that never culminated, a product development project that never culminated in a market product, never was sold commercially, never had a brand name, Winston or otherwise. It was - we had this discussion this morning about tar-to-nicotine ratio that I probably didn't do a good job explaining to you, but XB was part of that, how to get tar ten and preferably far below ten in a cigarette people would smoke, and XB was one of the projects for that.

Q. And why didn't XB end up in a commercially marketed cigarette?

A. Two reasons: One is, some of the prototypes, once

again, were too harsh. Those that were less harsh - this is the second reason - there's organic acid in flue-cured tobacco - it's in all tobacco, but it's highest in flue-cured - that appears to - and you can fix it by blending or having the organic acid extracted and reapplied. It, in earlier focus groups, seemed to show promise, but the more we worked with it and the more our expert smokers smoked it, the more they noticed a metallic off-taste. A metallic off-taste would be recognized by about a fifth of the people the first time they smoked it, but the majority of the people after they had smoked it several times, and the organic acids in tobacco and fruit and other places, if too high- - I used - when I worked at Natick Labs, we had a taste lab. It's not uncommon to have an organic acid be described as being too metallic.

Q. So this was the levulinic acid, is that right?

A. That's correct.

MR. MCDERMOTT: Gary, is that proprietary?

THE WITNESS: I don't know. It might be something that we want to declare as proprietary.

MR. MCDERMOTT: We will designate this as confidential, pending a review of the transcript to make a final determination.

MR. ELLISON: Sure. We can go off the record for a second.

(Discussion off the record.)

Q. Back to this tar-and-nicotine thing just briefly, does the technology exist to lower tar levels substantially below---? Let me back up.

The technology does exist to lower tar levels substantially below ten, right?

A. That's correct.

Q. And the problem with those ultralow-tar cigarettes is that they're not very commercially popular?

A. That's true, and if you like, I can tell you the rest of the story there.

Q. Please.

A. When you get down to three milligrams and below, you have high air ventilation, and then the draw is difficult. If you smoke a cigar and you puncture it, you - you just inhale or (vocal imitation) real---

THE WITNESS: I don't know how you spell that, by the way.

A. You suck--- I was trying to avoid the use of that word, but I'm going to have to use it. You suck hard on it, and you don't get much but air, and ultralow-tar cigarettes have a paper that's highly permeable, high porosity, and they have a filter that often exceeds seventy percent air dilution, and the lower you get down, the more like eighty percent you are, so you're already smoking eighty percent

hot air because it's drawn through and joins the heat stream from the burning cone. So it's unpleasant, and as a pipe smoker, when something occludes the airway in my pipe, it causes the draft to have too much resistance and I don't like it. If I have tapped the pipe too loosely, or in the case of a cigarette, if you have too much air dilution and too much permeability around the paper, I don't - you don't get enough taste and mouth feel. So the failure of the large majority of the efforts in the ultralow-tar area have been the result of too bland or mild a taste or too unusual a draw. They'll say the draw is too hard, but what that means is they're getting very little other than air when they inhale it or suck it into their mouth through the cigarette.

Q. And if you - if you took a cigarette that was like that, an ultralow tar with a, you know, point three milligrams of tar, and you had one milligram of nicotine, would there be taste problems with---?

A. Oh, yeah. I mean, you know, you're talking three times nicotine as tar. It would be unsmokable.

Q. Okay. You were the executive vice president for R and D both before and after the Master Settlement Agreement with the states was signed, is that right?

A. When was that signed? I think so, but I'm not certain. I'd have to look at when that was signed.

Q. Okay. Well, let me ask you this: Are you familiar with the Master Settlement Agreement?

A. Somewhat, not intimately.

Q. Did your job at Reynolds change at all after the Master Settlement Agreement was signed?

A. Yes, in one major way.

Q. How was that?

A. After that settlement, some states decided to set up their own state regulatory agency and put demands on the cigarette companies, especially the R and D departments, to test a lot of different chemical analyses by different puff profiles. They range from the absurd to the less absurd, to be frank, but we have to do it. So - you know, so unless they're going to demand something that's logistically impossible, we pretty much have to go along with it.

Q. Other than these demands of state regulatory agencies, were there any other differences in your job?

A. It created some task that I really didn't mind, which is make sure that the - that we understood what Texas and Massachusetts wanted. They were different entities. Some of the things they wanted were alike and some were not. As to pesticide analysis, we don't put pesticides on our tobacco, but farmers do, and for the most part, they use EPA-allowed pesticides. EPA doesn't endorse pesticides, but they allow them, so - and a state like Texas started out

requiring pesticides that are never used on tobacco. They might be used on citrus fruit, but not on tobacco. So we would have to--- I'm sure this is true for other tobacco companies, but I can only speak for Reynolds. We'd have to, you know, make a rational argument, try to talk sense with them about - I mean we can have all these wonderful chlorinated hydrocarbon and organophosphate analyses and we can develop it in-house and have some at a test lab, but they ain't there, but you don't have to do as many, you know, samples as you folks require. We could do it on bulk. I mean that created a lot of work in communication and so forth, but I think it worked out fairly well. So that changed. More of my job got focused on pesticides that might be used in agriculture. It had a lot of focus before, but it enhanced it.

Q. Okay. I'm going to ask you a couple of questions about - not so much about parts of the MSA, but I'm going to ask you some questions related to certain parts of the MSA. I've got an entire copy of it here for you, or I can give my---

MR. ELLISON: Let me just give you - give counsel the entire copy and ask do you prefer that the entire thing be marked as an exhibit, or this is basically the relevant pages that I would be talking to him about?

MR. MCDERMOTT: All right. Why don't we - why

don't we put in the cover page and then the relevant pages. We can put together something later. That's fine for now.

MR. ELLISON: Okay. Then we'll mark as Burger 5---

THE COURT REPORTER: So we're going to re-mark 5, right?

MR. ELLISON: Yes. Yes. Burger 5 without the cover page.

(Thereupon, Deposition Exhibit Number 5 Burger is re-marked for identification.)

A. Can I clarify one thing?

Q. Absolutely.

A. I want to be sure before I get into the meat of this. Are you talking about the Master Settlement with the states, or are you talking about the June of '98 settlement that was being negotiated with the tobacco companies?

Q. I'm talking about the agreement that was actually reached, and I believe it was November of '98.

A. Okay.

Q. Not the June 1997 proposed legislation.

A. Yeah. That failed in the McCain bill, or whatever, in '98.

Q. Right. Right. It was - has been referred to variously as the McCain bill and some other things.

A. Right. Okay.

Q. No.

A. Very good. Very good.

Q. Okay. Actually, if you could flip over to - starting out, I guess, it would be the last page of the exhibit, and I'm interested in paragraph (q), the paragraph that begins, "Prohibitions on agreements to suppress research."

MR. MCDERMOTT: Why don't you give him a moment to read this.

MR. ELLISON: Sure. Sure.

A. Okay.

Q. Okay. My question to you is, in the sixteen or seventeen years that you were at Reynolds, at any time during that employment period, were you aware of Reynolds ever entering into any contract combination or conspiracy with any other cigarette manufacturer that had the purpose or effect of limiting competition into the consequences of the use of their products or limiting or suppressing research into smoking and health or limiting or suppressing research into the marketing or development of new products?

MR. MCDERMOTT: Object to the form of the question. Compound, but you may answer.

A. I'm not aware of an efforts to do any of these things that are prohibited here in what you just read.

Q. Okay. Now the second question would be, apart from contracts or combinations or conspiracies with other manufacturers, did anyone at Reynolds ever tell you to limit information about the health hazards or consequences of smoking?

A. No.

Q. Did anyone at Reynolds ever tell you to limit or suppress research into smoking and health?

A. No.

Q. Did anyone at Reynolds ever tell you to limit or suppress research into the marketing or development of new products?

A. No. I mean there was no effort that I recall - and I'm sure I'd remember it - to repress, undermine any competitor, small or large, I mean, and certainly not repress any publications of findings of work we supported or anyone else did.

Q. Did you ever hear any other Reynolds employees talking about limiting or suppressing research regarding smoking and health?

A. (Witness shakes head negatively.)

MR. MCDERMOTT: You've got to answer audibly, Gary.

A. Oh, no. I'm sitting here shaking my head, trying to remember everything that could possibly even resemble

that, and I don't remember any - sorry - preceding the syllable and audible. No, I don't recall any such activity.

Q. Let me ask you to flip over to the second-to-last page. Actually - I'm sorry - the second page, not the second-to-last page.

A. Second page?

Q. Second page, paragraph (o).

A. Okay. (O), right there.

MR. MCDERMOTT: Okay. Got it.

THE WITNESS: You got it?

MR. MCDERMOTT: Uh-huh.

A. Okay.

Q. Did the - did the dissolution of the Council for Tobacco Research have any effect on your, as executive vice president of R and D at Reynolds?

MR. MCDERMOTT: I object to the form of the question. You may answer.

A. Well, yes, with the dissolution of it, I didn't have to go to meetings up there any longer. I did, as I said, earlier participate voluntarily in helping Dr. Glenn and staff wind down. They're nice people, and I had the option and I chose to, you know, spend a few more meetings with them to help them out, but, you know, obviously I didn't have to go to those meetings any longer.

Q. In terms of the winding down at CTR, was there any

discussion concerning who would do the work that had formerly been done through CTR?

MR. MCDERMOTT: Object to the form of the question. You may answer.

A. Dr. Glenn came to me when I was up there at one of the last meetings and said that the scientific advisory board were interested in forming an organization because of the amount of money that went for basic research would go away and the institutions would suffer research moneywise. Mr. Schindler, my boss, walked up about that time, and I told him what Jim had just said, you know, brought him up to speed, and I went on to say, "Jim, you know, we can't tell the scientific advisory board what to do, but we have agreed to this dissolution, and we can't even look like we're trying to restart it. If they want to do whatever they want to do as a scientific advisory board . . ."

And Andy said, "That's right, you know, but we can't be interested in it this time because we entered into this agreement."

I have had, on occasion, since then, before I retired, of course, people asking me, as head of R and D for Reynolds, if I would fund some work, and I told them, you know, not yet until all of this settles out, and then I might could consider it. But I've had to delay any request till - I mean, you know, that came shortly before I retired,

and my successor has to make those decisions.

Q. So did you notice - or was there an increase in the amount of in-house research done by Reynolds after the Master Settlement Agreement was signed?

A. I think about the same level. Totally independent of this agreement, Dr. Doolittle's area has made some breakthroughs in assay development, and so that kind of work has gone up. And they presented that work at National Cancer Meetings the last two years, but it's really not - I mean that uptacking has occurred coincidentally with the Master Settlement Agreement. It's not related to it, in my - in my judgment.

Q. Let me ask you to flip over to the next page, paragraph (p).

(Thereupon, the witness reviews a portion of the aforementioned document.)

A. Okay. I think I've completed it and the numbers under it.

Q. You mentioned some interest by the SAB of trying to form another organization. Other than that, to your knowledge, are there any entities currently performing any of the functions that were performed by CTR?

A. I don't - I don't know of any.

Q. Do you know what the Ingredients Working Group is?

A. Yes, uh-huh.

Q. What is that?

A. If we're talking about the same thing, that's a group of consultants that are primarily toxicologists that give advice and guidelines as to use of new additives or higher uses of additives that have been used before.

Q. And who are the members of the Ingredients Working Group?

A. Well, I don't know who they are today, but, you know, the panel members have been - if we're talking about the same entity - it sounds like we are - Bob Squires, Dr. Doull of Casarette and Doull, Don Gardner, editor of Inhalation Toxicology, and I don't know who the others are. They worked primarily with Bob Suber and his group, and they've been in place a long time. I mean shortly after Dr. Suber and I came here in October of '84, they were put together fairly soon thereafter.

Q. I'm going to ask you about a couple of names and see if they---

A. Okay.

MR. MCDERMOTT: Are we done with this exhibit?

MR. ELLISON: Yes. I'm sorry. We're finished with it.

A. Okay.

Q. Did you know or know of a Dr. Bick, B-i-c-k?

A. B-i-c-k?

Q. B-i-c-k.

A. Doesn't ring a bell, Dr. Bick.

Q. Okay. Who was Wayne Juchatz?

A. When I came to Reynolds, Wayne Juchatz was a vice president in legal and had the lawyers in R and D and the lawyers in external affairs that interacted with, like, the local EPA and stuff and I don't know what else reporting to him, and then he later became, under Jim Johnston, chief counsel.

Q. Let me show you what we'll mark as Burger 6.

(Thereupon, Deposition Exhibit Number 6 Burger is marked for identification.)

A. Okay.

Q. Have you seen this document before?

A. No.

Q. Just for identification purposes, Burger 6 is Bates number 50773 7625. It's a one-page letter dated March 25, 1986. What was your position on March 25, 1986, at Reynolds?

A. Director of toxicology.

Q. And as part of your duties, would you have been involved in studies concerning smoking and lung cancer?

MR. MCDERMOTT: Object to the form of the question.

A. Very - as director of toxicology, I've already

described to you the interaction I had in the '80s with Sommers and James Bennington, so there was an example of where I would have been involved. Another example was at the University of British Columbia they had some work that, like Bennington's work, was a bit retrospective in epidemiology, taking samples from lung resections years ago and evaluate them histologically. And in that case a scientist that worked for McDonald's - RJR McDonald's in Canada, asked me if I could consider championing Dr. Hogg's project. So there's another, and I did, and we funded him. So there's another example where I might have been involved. There are other ways that medical schools and medical institutions or individual physicians could have been funded that I wouldn't have been involved in, and I'm not aware of this one, so I must not have been involved.

Q. But in terms of in-house research at Reynolds---

A. Yes.

Q. ---what have you been involved in, in studies concerning lung cancer?

MR. MCDERMOTT: Object to the form of the question.

A. Not necessarily in this year. I mean I might have been; I might not have been. Just, I mean, I was head of toxicology, but I wasn't head of R and D, and I didn't run Dr. Suber's group and other parts of Dr. Hayes's area.

Another way I might have gotten involved is, we funded quite a bit of work in the '80s at Duke and UNC School of Medicine and a few other places that escapes me, but those two, I interacted with them a lot on animal models of lung cancer, animal models of lung disease, and I was the only one that could read electron microscopy and talk with pathologists, so I was asked to interact with them, but they were already funded before I came. But I don't know anything about this one.

Q. And during this time period around March 25th, 1986---

A. Uh-huh.

Q. ---you would have expected that there would have been work at Reynolds concerning lung cancer that you weren't aware of?

MR. MCDERMOTT: Object to the form of the question.

A. I wouldn't - I don't know that I'd use the word "expected." I mean it could have - there could have been some work. This says "continuation." I don't know when this study may have begun, but obviously part of it had been underway, and it may have started before I got there, and I could see where a study could be ongoing that started before I got there, me never having heard about it, I mean. As I spent more time here, it would have been more likely I would

have heard about it. I had only been here a year and a half, almost nineteen months maybe, when this letter apparently was written.

Q. Okay. We can - I'm finished with that one. I believe earlier you mentioned a Dr. Alvin Feinstein?

A. Uh-huh.

Q. How did you know Dr. Feinstein?

A. Well, I had read some of his work, I believe, even as early as the NCTR days. When Dr. Hayes got here in July of '84 and after I arrived, within a year he and I talked about Dr. Feinstein. Wally had met him before; I had not. But the conversation was really that Bob DiMarco knew him when Bob DiMarco was at Rutgers and wanted to have him down to meet us as new employees of Reynolds, so he came down, and I got to meet him face-to-face, and there were several well-known scientists that Dr. DiMarco had known from his Rutgers days. Phil Shubik was another one, the head of Tox Forum, and had a similar breakfast meeting with him one time.

Q. Do you recall approximately when your meeting with Dr. Feinstein was?

A. Late '80s, I think, but I don't remember when it was. The Tox Forum meeting I referred to earlier, I believe, was 1991, and I met Dr. Feinstein at least two or three years before that, so I'm guessing around '88, maybe

early '89, somewhere in that time frame.

Q. And after that time that you met him, did you have regular contact with him?

A. Never - I said hello to him at that Tox Forum meeting, followed his work more closely. He and a good friend of mine, Dr. Bernie Wagner, were high school classmates, and at that Tox Forum meeting when I said hello to him, to Dr. Feinstein, Dr. Wagner came up and started teasing him about being graduates from the same high school, and there was some other well-known MD in this country who publishes a lot - I forget who it is - that was also in the same class of that high school in New York. That was the first time that I recognized that we had a mutual friend.

Q. Why did you follow Dr. Feinstein's publications?

A. You know, I said earlier that I'm a old-school fundamentalist, so to speak, when it comes to epidemiologists, and Dr. Feinstein is a good example of the old-school epidemiologists in the country. He's - he writes editorials, has for Science, for example, the magazine Science, the Journal of Science, and I always try to catch those if there's one of his in there. He's very poignant, but uses dry wit to make a point, so he's always a good read.

Q. Let me show you what I'll mark as - I believe this is Burger 7.

(Thereupon, Deposition Exhibit Number 7 Burger is marked for identification.)

A. Okay.

Q. Have you seen this document before?

A. Huh-uh, no. The meeting I referred to as a breakfast meeting with DiMarco, myself, Wally Hayes, and Feinstein, I'm pretty sure was before this letter was written. I can't recall the exact date, but it was earlier in '90 or late September.

Q. And when you met---?

A. I mean late '89. Later than September '89. Excuse me.

Q. Sorry. Didn't mean to interrupt. When you met with Dr. Feinstein, were you aware that he was receiving funding through CTR?

A. I might have been told that. I just don't recall. Doesn't surprise me. CTR funds a lot of work - funded a lot of work at prestigious universities with prestigious scientists. He certainly qualifies for both where he was and his name. The last full year of funding at CTR, twenty-four of the top twenty-five medical schools were receiving funding, as described by Newsweek in their annual medical school ranking, and the 25th one was the University of Pittsburgh, and they were finishing up theirs. They had not made a new request. Harvard, Yale, places like that,

were in there. So he could well have been a CTR recipient.

Q. And what was your position at Reynolds around August 31 of 1990?

A. I just became head of advance technology products in approximately June of 1990, so I was two months plus into that new job role.

Q. Did anyone at Reynolds come to you and ask whether Dr. Feinstein's research should be funded through CTR?

A. No. This - when I was on the board, no one asked. At this period of time, I might have had two visits to CTR and had annual reports that may have had some of his earlier work in it, but I don't remember seeing that. I likely could have. But no one asked me whether anybody's work ought to be funded through CTR because that was the scientific advisory board's role, as I understood it, but it may have been, you know, because they didn't feel that this was my area of expertise too. I mean there's a variety of reasons why they didn't ask me.

Dr. Feinstein, when we had that breakfast meeting, I could have been told that he had funding from CTR. Since it wouldn't have surprised me, I could have forgotten, but I just don't recall anyone telling me that he had funding through CTR.

MR. ELLISON: If we could take a short break, subject to cleanup, I'm pretty close.

MR. MCDERMOTT: All right.

(Thereupon, a recess is taken from 2:25 p.m. to 2:35 p.m.)

Q. Dr. Burger, during the course of the deposition, is there anything that you've remembered in connection with talking about things that you didn't remember at the time that I asked you the question, but you do now about any of the topics that we've covered?

A. There's a possibility. I don't think I did a clear job in answering some of your questions on tar-and-nicotine ratio, and I might have left you with the impression that the health authorities in Europe, the Surgeon General's Report in the late '80s, and others said that ten milligrams of tar is low enough. I didn't want - I want to make sure I don't leave you that impression. Their ultimate goal, stated then, is to lower tar as much as possible, and the recognition, especially on the European committee's part, that - not to lower nicotine as much. What they mean by maintain nicotine, they're not wanting to raise it, but they're wanting to maintain it from a lights level, but in an ultralow-tar cigarette, and I would be amiss in not clearing that up for the record, if that's the way it comes out literally.

Q. But the problem with that - I mean what we talked about is if you lower tar and maintain nicotine - if you

lower tar way down---

A. Right.

Q. ---and maintain nicotine, you get something that is unsmokable, right?

A. That's correct. That's correct. You have to - I don't know where that - you know, is it eight to one or seven to one that could be, through blending or an ingredient, or whatever, made smooth enough, but strong enough to satisfy people as to tobacco taste, and I do know that it's worth trying, and this company is still trying, but it's a tough technological nut to crack. But I am in agreement with the Mike Russells, the Goris, Thoureaus, and others members of the SCOTH Committee that think that should be done. Anybody that thinks we could do it anytime we want to and have a cigarette people would buy, unfortunately, are wrong. I wish they were right because I think it's worth doing. It's worth going after.

Q. Okay. Other than that point, is there anything else that you've recalled during the course of the deposition?

A. I can't think of anything, Mr. Ellison, but I just - I just can't recall whether, when Dr. Feinstein came, whether Bob DiMarco told me that CTR had funded some of his work. I just can't recall. I mean it could have been that, but I--- And I apologize for that memory lapse, but it's

the best I can do.

Q. That's fine. I just want to ask you a couple of questions about your preparation for the deposition.

A. Sure.

Q. And just want to reiterate what Mr. McDermott said. I'm not interested in confidential communications that you have with your counsel.

A. Okay.

Q. Did you have any meetings in preparation for your deposition?

A. Yes.

Q. Who did you meet with?

A. Those two individuals.

Q. And how long were those meetings?

A. Oh, this is an estimate. I didn't keep a time clock, but four to seven hours each.

Q. On how many days?

A. Five, I believe - four or five. Five, probably. Five. I didn't - I think it's five. I didn't keep a calendar on that either.

Q. And did you review any documents in preparation for the deposition?

A. Actually, no.

Q. Other than your attorneys, did you talk to anyone about this deposition?

A. Well, my former secretary still keeps records for me. I keep her up with the schedule, when it was, and in case anybody in R and D on the stuff I'm consulting with, wants to get ahold of me, most likely Dave Doolittle. So she knew - knows about the timing of the deposition. Therefore, Dave Doolittle knows about it. My successor, Dave Townsend, knows I'm deposed because Dave Doolittle works for him and I've told him. The substance of this meeting and what I'm doing to prepare for it, I haven't discussed it with anybody except my wife, who wants to know why I'm not home more.

MR. ELLISON: Subject to redirect, I don't have any more questions.

EXAMINATION BY MR. MCDERMOTT

Q. All right. I've got just a few questions, Dr. Burger. You testified a little bit earlier on the reaction of smokers to Premier when it was first introduced. Let me ask you if you recall whether the public health community reaction to the - reacted to the introduction of Premier?

A. Quite strongly in this country. The public health reaction, some took place in Europe as well, but it was positive. For the most part, here it was negative.

Q. All right. Was this a surprise or a disappointment to the company?

A. I believe it's safe to say it was both.

Q. In your view, what reaction, if any, did the adverse reaction of the - what impact did the adverse reaction of the public health community have on the reception which smokers gave Premier?

A. Well, I went out to Tucson, and some of the U.S. public health community's reaction was in the newspapers, and I heard firsthand. This was a scientific meeting on Premier in Tucson, but Tucson also was the site of one of the area's test market, and I was disappointed to hear smokers talking in stores that were - had Premier displays, because after the meeting, I drove over with Wally Hayes to see what the displays looked like and what have you, and they - their reaction was, you know, a lot of people saying this is worse for me than other cigarettes, so I ain't buying one of them. Other people were saying it's a carbon monoxide torch because some remarks, I guess, that were made in the paper about carbon monoxide.

Q. And these are some conversations of reactions of the smokers or potential smokers of Premier?

A. And the salesman in the - he joined in the discussion of black humor, perhaps, or dark humor. That was a shocker to me. Now I had already read, of course, myself the reaction, so there was firsthand and secondhand awareness that I obtained about the negative reaction.

Q. And is it fair to say that the adverse reaction of the public health community received wide - widespread play and high visibility?

A. It's, I think, very fair to say it. The New York Times had several editorials on it. Time or Newsweek Magazine had talked about the reaction, as well as what Premier was, and even some of the scientific community in Europe, for example, the - whatever the French Surgeon General Corlette is, he talked about it. The public health community's response to Premier in the United States was perplexing to him. He didn't understand why, based on what he had seen, it was discouraged.

Q. Did the reaction of the public health community in the United States, the adverse reaction which you encountered, played a role in the company's decision to withdraw Premier from the market?

A. Yes, it played a significant role, in my judgment. This broke Dr. DiMarco's heart, head of R and D at the time, and sometimes he and I were there alone at night because we both had bad work habits, and we'd sit around and do this - the postmortem on the whole Premier episode, and it was his conclusion, and I agreed, that it didn't taste good enough, and he didn't state this because he didn't believe this, but I had a belief that its odor was too different than other cigarettes. It was too peculiar. And we both agreed the

public health response, for example, Dr. Young, the FDA commissioner, got numerous petitions to ban it or withdraw it from the market. That was pretty prevalent in the press. And he and I were both discouraged by that.

MR. MCDERMOTT: No good deed goes unpunished. No further questions.

EXAMINATION BY MR. ELLISON

Q. Just a couple. Did Reynolds consider approaching FDA or FTC concerning Premier before introducing it?

A. Yes. I think we - some people higher up than me talked with a representative of the FTC to let them know it was coming out, just to forewarn them. Dr. Young, I believe his name was, FDA commissioner, my boss, Dr. DiMarco, and Wally Hayes - I believe Wally Hayes was there - met with Commissioner Young. Some FDA lawyer - he no longer works for the FDA; I forget his name - talked with the Surgeon General's Office, and there was either a meeting or a correspondence - I don't know which it was - with the Surgeon General's Office before the introduction of Premier. Might have been correspondence. I don't know what form it took.

Q. And what kind of feedback did you get from the FTC?

A. They seemed to have, you know, if you - if you-all have this work and you're publishing it, you need to

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continue publishing it. This was the meeting I attended after some groups petitioned them. I don't know that any feedback was gotten from the first contact with the FTC because that's not typically their role, as you tell them something and if they have any questions, they'll ask you, but - and forgive me if I'm off base, but I think then they await questions and complaints and see if you - your advertising and your tobacco FTC testing requirements have all been met and if your claims or your messages are appropriate and substantiated. Dr. Young's, as told to me by the FDA commissioner, by--- But you didn't ask about that, did you?

Q. That was going to be my next question, so---

A. Oh, I'm sorry. I'm sorry.

Q. But that's - if you understand---

A. Okay. The FDA commissioner, who I believe's name was Young at the time, he felt - he felt like it was good, but he later told Dr. DiMarco - I don't know if it was by phone or what - that, you know, "These antismoking activists and these associations, like Heart and Lung and all that, are all over us down here. You know, you've got to keep me posted on, you know, are you going to stay and test-market or what, because I've got to do something with all this. You know, as FDA commissioner, I've been asked to do a lot of things by different people, and I've got to, you know,

sort out where I'm going to be."

And so he was one of the first told when we withdrew it from market, as a consequence of that discussion. Ron Davis and Dr. Koop, the Surgeon General, I think, listened politely, but I do know Ron Davis read it, told a congressional committee that - I don't know which committee it was, but it was on television, and I read the newspaper account of it - that it may be they have to, quote, unquote, "sacrifice a generation of Americans, but they don't want Premier to stay on the market," they being the Surgeon General's Office.

Q. I'm sorry. I'm not sure I understand what that means.

A. Well, the - in all fairness, let me try to, from my memory, put it into context. Some congressman, senator or congressman, asked Mr. Davis, who was, I think, Associate Surgeon General or something like that, Assistant Surgeon General, whatever you call it, wouldn't it be sad or unfortunate if this is a safer cigarette - Premier, he was talking about - and it wasn't allowed to be marketed, and he responded, "Well, it could be that for some people who smoke today, it's better for them," but, you know, it was his opinion that it's better to sacrifice present smokers from having a lower-risk product, I guess is what he meant, than not to criticize Premier.

Q. And all this would have been happening around 1988, is that right?

A. '89, I think, was more likely when this occurred. You know, I'm not trying to be melodramatic. It just tore me up inside and my boss and my boss's boss. I mean it was a disappointment.

Q. Based on your experience with Premier, did you do anything differently in connection with Eclipse?

A. Yes. I made more of an effort to have detailed discussions, scientist to scientist, with the FDA, FTC, the CDC in Atlanta, and to have these medical school studies completed with the results published or about to be published, from the lessons I learned with Premier. I think that's suggested in your question.

MR. ELLISON: I don't have anything further.

MR. MCDERMOTT: Nothing further.

THE WITNESS: Thank you.

MR. ELLISON: We're adjourned.

(Thereupon, at 2:52 p.m., the deposition is adjourned.)

- - - - - - - - -

SIGNATURE OF WITNESS

I, GARY THOMAS BURGER, certify that I have read in full the preceding transcript of my deposition and that it is a true and complete record of my testimony, with the exception of any changes indicated on the errata sheet(s) attached hereto and signed by me.

____
Gary Thomas Burger

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my seal this ______ day of ______________ 20___.

____
Notary Public

My Commission Expires: ____________

REPORTER'S CERTIFICATE

I, PAGE CHAMPION ROBERTS, CVR-CM, Notary Public in and for the County of Guilford, State of North Carolina, and Certified Verbatim Court Reporter, do hereby certify:

That on the 26th day of July 2001 there appeared before me the foregoing witness in the above-entitled matter;

That said witness was placed under oath and examined in said matter;

That the foregoing testimony was reported by me and the foregoing transcript is a true and correct record of all the testimony of said witness;

That I am not related to or in any way associated with any of the parties to said cause of action or their counsel and that I am not interested in the event thereof.

IN WITNESS WHEREOF, I have hereunto set my hand this 14th day of August 2001.

Notary Public
My Commission Expires: 09/07/04

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Look-See Concordance Report

UNIQUE WORDS: 2,642
TOTAL OCCURRENCES: 9,322
NOISE WORDS: 384
TOTAL WORDS IN FILE: 27,482

SINGLE FILE CONCORDANCE

CASE SENSITIVE

COVER PAGES = 5

INCLUDES ALL TEXT OCCURRENCES

DATES ON

INCLUDES PURE NUMBERS

POSSESSIVE FORMS ON

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Exhibit 1

52649 0498

CIAR Planning Conference
Agenda

Monday, May 9, 1988

Morning Session - CREEKSIDE III

8:00 a.m. - Discussion leader, Mary Ward

1. Review of Mission and Objectives of CIAR
2. Discusson of Communications Aspects of CIAR (by what means - journal, newsletter, press releases, symposia - and to what audiences)

9:30 a.m. - Break

Coffee, juice, sausage and ham biscuits

9:45 a.m. - Discussion leader, John Rupp

Indoor Air Surveys

1. Future of PASS-type studies
2. What, how, and where to sample
3. Airline studies

12:00 - Lunch - RESTAURANT

Afternoon Session - CREEKSIDE III

2:00 p.m. - Presentation

Drs. Sorell Schwartz and Nancy Balter

1. Recent results of reviews of NAS and SG reports
2. Suggestions on future research (specific projects)

4:00 p.m. - Break

4:15 p.m. - Presentation

1. Dr. Michael E. Ginevan, Environ Corporation

Dr. Ginevan will discuss problems involved in sorting out risks of lung cancer in indoor environments.

2. Dr. Lawrence Fishbein, Environ Corporation

Dr. Fishbein will address Proposition 65 and general indoor issues.

7:00 p.m. - Cocktails - LIBRARY

8:00 p.m. - Dinner - LIBRARY

Tuesday, May 10, 1988

Morning Session - LIBRARY

8:00 a.m. - Relationship of Indoor Air to Chronic Disease

1. Dr. Bill Davis - Review of current and past projects funded in this area.

2. Discussion leader, John Rupp

The discussion will focus on the feasibility of funding specific projects related to chronic disease. The outline which follows is a discussion guide only, rather than an agenda for this portion of the meeting.

A. Which diseases to assess - lung cancer, emphysema, heart disease, others

B. How to assess

1. Population Studies

a. are there current data bases which would yield useful information?

b. personal monitors

c. appropriate determination of dose; metabolic markers, questionnaires

d. deposition and absorption studies

2. Genetic toxicology

3. Animal studies

9:30 a.m. - Break
Coffee, juice, sausage and ham biscuits

9:45 a.m. - Resume preceding discussion

10:30 a.m. - Discussion leader, Mary Ward

Expanding the Focus (and Membership) of CIAR

1. Role of CIAR in identification, characterization and assessment of non-ETS sources affecting indoor air quality

2. Role of CIAR in developing strategies and assessing technology for achieving and maintaining adequate indoor air quality

12:00 - Lunch - RESTAURANT

Afternoon Session - LIBRARY

2:00 p.m. - Relationship of Indoor Air to Acute Health Effects

1. Dr. Bill Davis - Review of current and past projects funded in this area

2. Discussion leader, John Rupp

The discussion will focus on the feasibility of funding specific projects in this area. The outline which follows is a discussion guide only, rather than an agenda for this portion of the meeting.

A. What conditions to study

1. Allergic responses
2. Respiratory ailments
3. Irritation and annoyance

B. How to Assess

1. Lung function
2. Incidence of symptoms

C. Whom to Assess

1. Working population
2. Children

D. What Constituents of Indoor Air to Assess

4:00 p.m. - Break

4:15 p.m. - CIAR Board Meeting

7:30 p.m. - Dinner - RESTAURANT

Exhibit 2

52649 0502

LAW OFFICES

SHOOK, HARDY & BACON

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OVERLAND PARK, KANSAS 66210
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July 19, 1988

Dr. G. T. Burger
Dr. C. R. Green
Dr. V. Norman
Dr. T. S. Osdene
Dr. R. A. Pages
Dr. A. W. Spears

Gentlemen:

I have enclosed a draft agenda for our August 2 CIAR meeting in Kansas City. The meeting will begin at 8:30 a.m. at our offices, One Kansas City Place, 1200 Main, 31st floor.

I also have enclosed a recent publication by Koo and Rylander on ETS and lung cancer.

We look forward to seeing you on August 1 in Kansas City.

Best regards.

Sincerely,

Donald K. Hoel

Enclosures

cc: Mr. W. Kloepfer, Jr.
Dr. G. B. Oldaker
Mr. J. P. Rupp
Ms. M. E. Ward

50681 2194

52649 0503

DEPOSITION EXHIBIT
2
Burger

Field	Value
Title:	I HAVE ENCLOSED A DRAFT AGENDA FOR OUR AUGUST 2 CIAR MEETING IN KANSAS CITY.
Author:	HOEL DK; SHOOK HARDY
Recipients:	BURGER GT; GREEN CR; NORMAN V; OSDENE TS; PAGES RA; SPEARS AW
Copyees:	KLOEPFER W JR; OLDAKER GB; RUPP JP; WARD ME
Mentioned Names:	CIAR; KOO; RYLANDER R
Mentioned Brand:	
Document ID:	506812194-2194
Document Type:	LETTER
Doc Date:	19880719
Case Name and Request Number:	MINNESOTA 1RFP8; TEXAS INITIAL DISCLOSURE
Possible Minnesota Requests:	
Depository Production Date:	19961231
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Attachment:
2192 -2194
Special Collections:
BROIN2
Trial Exhibits:

Privileged Information Redacted:

Marginalia:
N

Placed in Evidence

52649 0505

R.J. Reynolds

Tobacco Issues

- Opinions & Philosophy
- Health Issues
- "Tar" & Nicotine
- Cigarette Ingredients
- Secondhand Smoke
- Settlements
- Youth Smoking
- Taxes/Legislation
- Smokers' Rights
- Litigation

Tobacco Issues

Even though our society has determined that cigarettes are legal products for adults, the manufacture, regulation and marketing of cigarettes has long been the subject of great controversy. Therefore, R.J. Reynolds Tobacco Company conducts our business within fundamental guidelines that we believe are appropriate for a manufacturer of a product with significant and inherent health risks. In addition, our company is committed to being a constructive participant in developing and implementing solutions to public issues involving cigarettes.

This section of our website provides our beliefs, operating philosophies and additional information on a wide range of tobacco issues:

- Our opinions on smoking issues, the philosophy by which we conduct our business, and information about RJRT's approach to product stewardship and risk-reduction efforts;
- Our position on health issues;
- A summary of what "tar" and nicotine numbers mean;
- An explanation of cigarette ingredients;
- Our position on secondhand smoke issues;
- The settlement of litigation with state Attorneys General;
- Our youth non-smoking programs;
- Cigarette tax and legislative issues;
- Smokers' rights; and
- Tobacco litigation, which includes information on litigation issues and a link to R.J. Reynolds Tobacco Company's on-line litigation document archive. The documents website contains documents produced by R.J. Reynolds Tobacco Company in litigation.

R.J. Reynolds

Tobacco Issues

- Overview & Philosophy
- Risk Reduction Efforts
  - Defining
  - RJRT's Approach to Product Stewardship & Risk Reduction Efforts
  - History of Efforts to Reduce Risk
  - Promise & Limits
  - Low Nitrosamines
  - Risk Reduction Standards

Health Issues
"Tar" & Nicotine
Cigarette Ingredients
Secondhand Smoke
Settlements
Youth Smoking
Issue Advocacy
Smokers' Rights
Litigation

Our Opinions & Philosophy

Overview

Even though our society has determined cigarettes are legal products for adults, the manufacture, regulation and marketing of cigarettes has long been the subject of great controversy.

So, for a company that makes and sells cigarettes, what is the best way for us to conduct our business? At R.J. Reynolds Tobacco Company, this is not a policy or academic debate. It is a question we have to ask ourselves and answer every day.

Our Philosophy

We conduct our business by some simple but important guidelines:

- We produce a product that has significant and inherent health risks for a number of serious diseases, and may contribute to causing these diseases in some individuals.
- There is and should continue to be universal awareness of these risks. We work to reduce the risks associated with smoking through comprehensive approaches to new product design.
- We do not encourage nonsmokers to start smoking.
- We do not want children to smoke, not only because it is illegal to sell cigarettes to minors in every state, but also because of the health risks and because children lack the maturity of judgement to assess the risks.

Click here for information on Risk Reduction Efforts.

You can also learn more about R.J. Reynolds Tobacco Company's operating philosophy by clicking here to see the section on Business and Marketing Principles.

R.J. Reynolds

Tobacco Issues

- Overview & Philosophy
- Risk Reduction Efforts
  - Quitting
  - RJRT's Approach to Product Stewardship & Risk Reduction Efforts
    - History of Efforts to Reduce Risk
    - Premise & Lattice
    - Low Nitrosamines
  - Risk Reduction Standards
- Health Issues
- "Tar" & Nicotine
- Cigarette Ingredients
- Secondhand Smoke
- Settlements
- Youth Smoking
- Youth Exploitation
- Smokers' Rights
- Litigation

Quitting

Of course, the best way to reduce the risks of smoking is to quit.

There is universal awareness of the conclusions of the Surgeon General, public health and medical officials that smoking causes serious diseases, including lung cancer and heart disease. Individuals should rely on these conclusions when making any decision regarding smoking.

Many people believe that smoking is addictive, and as that term is commonly used today, it is. Many smokers find it difficult to quit and some find it extremely difficult. However, we disagree with characterizing smoking as being addictive in the same sense as heroin, cocaine or similar substances.

Any smoker with a sincere desire and determination to stop smoking can -- and should -- quit. As many Americans have quit smoking as currently smoke. The 1990 U.S. Surgeon General's report stated that nearly 45 million Americans had quit smoking.

There are many products, programs and resources available that have been designed to assist an individual in quitting smoking. For smokers who wish to quit and find such aids to be of assistance, we encourage them to use them.

National sources of information about quitting smoking include:

- The American Cancer Society - (800) 227-2345
  www.cancer.org/tobacco
- American Heart Association - (800) 242-8721
  www.americanheart.org
  (you may find it helpful to search for the word "smoking" from the website's home page)
- American Lung Association - (800) 586-4872
  www.lungusa.org
- Nicotine Anonymous - (415) 750-0328
  www.nicotine-anonymous.org
- Office on Smoking and Health,
  National Center for Disease Prevention and Health - (770) 488-5701
  www.cdc.gov/tobacco
- U.S. Department of Health and Human Services' Healthfinder
  www.healthfinder.gov
- Quitnet
  www.quitnet.org
- DrKeep.com
  www.drkeep.com

Tobacco Issues

RJRT's Approach to Product Stewardship and Risk Reduction Efforts

Since there is no safe cigarette, what are we doing to potentially reduce the health risks for adults who choose to smoke our products?

We believe three areas offer the greatest opportunity for developing consumer-acceptable cigarettes that may present less risk to smokers:

1. Continued development of alternative cigarette designs, such as tobacco-heating cigarettes, which offer reductions in certain smoke compounds not achievable through traditional cigarette designs. (See section on Premier and Eclipse)

2. Continued general and specific reductions of specific smoke-constituents in tobacco-burning cigarettes. (See sections on History of Risk Reduction Efforts and Tobacco Specific Nitrosamines)

3. Research of potential products having reduced "tar"/nicotine ratios, to achieve additional general "tar" reductions. (See section on "Tar" and Nicotine)

We work to ensure that nothing we do or add to our products will increase the inherent risks associated with smoking.

For many years, we have systematically evaluated our products, processes and ingredients using a standardized testing protocol to determine whether any changes may result in significant increases in the inherent biological (impact on animal cells and tissues) activity in cigarette smoke. In addition, we use the minimum amount of ingredients possible to achieve the desired taste characteristics in each brand. (See sections on History of Risk Reduction Efforts and Cigarette Ingredients)

We have been at the forefront in developing and applying methods to assess the relative toxicity of cigarette smoke. We have pioneered a number of techniques to reduce overall "tar" and nicotine yields. And we have developed technologies to reduce specific compounds and classes of compounds in cigarette smoke.

We are committed to finding ways to develop and market consumer-acceptable cigarettes that might have the potential to reduce the risks of smoking. Consumer acceptability of cigarettes with potential risk reduction is key. If smokers don't like and won't purchase such cigarettes, they will have no benefit.

Our experience with Premier, Eclipse and other cigarettes demonstrates that smokers are unwilling to make significant trade-offs in taste, ritual or other factors.

R.J. Reynolds

Tobacco Issues

Risk Reduction Standards

The potential for a new generation of reduced-risk cigarettes reinforces the need for objective standards to ensure that smokers are provided with understandable and credible information about new cigarettes.

We will not make any risk reduction claims — direct or implied — unless an appropriate battery of scientific tests can substantiate the validity of any such claims.

The public health and scientific communities, along with cigarette manufacturers, should jointly consider the complexities of cigarette design and performance in developing a reasonable and practical national policy on risk-reduction approaches.

Links

Business and Marketing Principles
History of Risk Reduction Efforts
Premier and Eclipse

RJ Reynolds

Tobacco Issues

Business & Philosophy
"Tar" & Nicotine
Cigarette Ingredients
Secondhand Smoke
Health Issues
Youth Smoking
Advertising & Marketing
Smokers' Rights
Litigation

Health Issues

R.J. Reynolds Tobacco Company manufactures products that have significant and inherent health risks for a number of serious diseases, and may contribute to causing these diseases in some individuals.

There is universal awareness of the conclusions of the Surgeon General, and public health and medical officials that smoking causes serious diseases, including lung cancer and heart disease. Individuals should rely on these conclusions when making any decision regarding smoking.

Epidemiological studies (population studies comparing the incidence of disease between groups of smokers and groups of nonsmokers) have led the U.S. Surgeon General to conclude:

- Smokers have almost twice the risk of having coronary heart disease as nonsmokers.
- Smokers' risk of getting lung cancer is approximately 14 times that of nonsmokers.
- Smokers' risk for chronic obstructive pulmonary disease is approximately 10 times that of nonsmokers.

While these studies do indicate that smokers as a group are at higher risk, they do not predict the likelihood of any individual smoker getting lung cancer, heart disease or any other condition that has been linked to smoking. An individual's risk for contracting a smoking-related disease is based on many factors in addition to smoking.

Links

For more information from RJRT about topics related to this section, see our website sections on:

Risk Reduction Efforts
Business and Marketing Principles

R.J. Reynolds

Tobacco Issues

- Opinions & Philosophy
- Health Issues
- "Tar" and Nicotine
  - Summary
  - Back to FTC T&N Test
- Cigarette Ingredients
- Secondhand Smoke
- Settlements
- Youth Smoking
- Tobacco Taxation
- Smokers' Rights
- Litigation

"Tar" and Nicotine

Introduction

"Tar" is the total material (consisting of smoke particles minus nicotine and water) that is on a specific type of filter pad when cigarettes are machine-smoked according to a method by the Federal Trade Commission (FTC). The FTC method is described in detail below.

Nicotine is an alkaloid that naturally occurs in tobacco, and, at considerably lower levels, i other plants in the nightshade (solanaceae) family as tomatoes, potatoes, eggplant and gre peppers. Alkaloids are complex, nitrogen-containing compounds that naturally occur in pla "bases" on a pH scale, and have pharmacological effects in humans and animals.

Among nicotine's common effects in humans are increased blood pressure and heart rate, improvements in concentration and short-term memory.

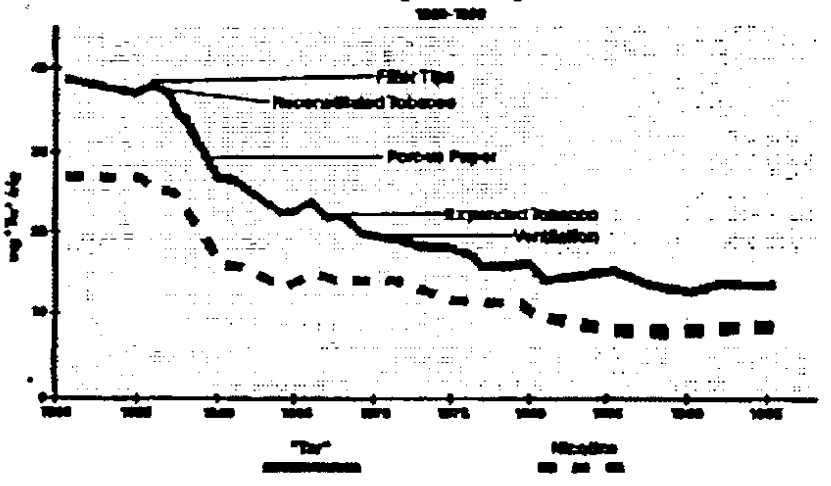
The amount of nicotine in finished cigarettes is less than the amount in the leaf used to m cigarettes because some nicotine is lost during the curing, storing and manufacturing proc of the nicotine in all of R.J. Reynolds Tobacco Company's cigarettes occurs naturally in the to make these cigarettes. We do not add nicotine or any nicotinic compounds to any of our cigarettes, nor do we do anything to enhance the effects of nicotine on the smoker.

Reducing "Tar" and Nicotine

During the past several decades, cigarette design innovations have focused largely on "tar nicotine reductions, based on a belief that was long embraced by the U.S. Surgeon Genera public health community: "less ought to be better."

At R.J. Reynolds Tobacco Company, we have pursued that goal for much of our history, de and introducing ways to reduce "tar" and nicotine while still providing cigarettes that are s to smokers. Our company has spent many decades developing ways to reduce overall "tar" nicotine yields and to reduce the levels of various specific compounds in tobacco smoke. R invented or improved many of the technological innovations that have helped reduce the a "tar" and nicotine yields of U.S. cigarettes by 67% during the past 40 years. (See section of Efforts to Reduced Risk).

"Tar" and Nicotine Content of U.S. Cigarettes
Sales-Weighted Average Basis



Nonetheless, we believe, as the Surgeon General and other public health officials have con stated, that no cigarette is safe. All cigarettes do -- and should -- carry the Surgeon Gener warnings.

Today, Reynolds Tobacco offers a wide variety of cigarettes, ranging from the lowest "tar" on the market to a number of full-flavor cigarette styles. Our company, like other cigarette manufacturers, uses brand descriptors such as "full flavor," "lights" and "ultra lights" to dif cigarette brand-styles in terms of such characteristics as strength of taste, and reported "t nicotine yield. These terms do not, and are not meant to, imply that any cigarette brand-st any category of cigarettes, is safer than any other.

The FTC Testing Method

The FTC (Federal Trade Commission) Testing Method is the standard test method that has in the United States since 1967 to determine smoke cigarette yields. "Tar" and nicotine nu were first generated with this method by the U.S. government in 1967. The determination monoxide yields in cigarette smoke was added to the method in 1980.

"Tar" is an extremely complex mixture of chemical compounds. To date, about 4,900 comp have been identified in "tar," and more than half of them were first identified in Reynolds laboratories.

What the FTC Numbers Mean

The FTC testing method has been criticized since its inception, and the method does have l limitations. The primary basis of criticism is that a cigarette's yield rating under the FTC te does not predict a smoker's level of exposure to "tar," nicotine or carbon monoxide from s that cigarette.

Nonetheless, the method plays a very important role, providing an accurate and precise w compare cigarette yields under standardized machine-smoking conditions and to rank cigs based on their yields.

The numbers produced by the FTC method are analogous to those that report EPA gas mile they have always been intended by the FTC to be used in the same way the gas-mileage n are used.

Gas-mileage numbers don't predict exactly how many miles per gallon any particular drive actually get while driving a certain car. The mileage numbers simply report how much mile car gets compared to another car tested under the exact same set of circumstances. As a r provides a relative ranking that can help drivers choose between one car and another.

FTC numbers also provide a set of standardized ratings that compare the "tar," nicotine an monoxide yields of cigarettes when these cigarettes are machine-smoked under exactly th conditions.

FTC numbers are generated under "standardized" conditions, while human smoking behavi widely, both within and between individuals. Among these variables are the number, freque volume of the puffs taken by the smoker. In other words, a smoker who takes larger or m frequent puffs is likely to inhale more "tar" and nicotine. Therefore, the FTC numbers do n cannot - tell how much "tar" and nicotine any individual smoker will get from any particula cigarette. And they were never intended to provide estimates of individual smokers' intake and nicotine.

In 1967, when the FTC introduced the testing method, it issued a news release and explai the purpose of the testing "is not to determine the amount of tar and nicotine inhaled by a smoker, but rather to determine the amount of tar and nicotine generated when a cigarett smoked by a machine in accordance with the prescribed method."

A List of FTC Cigarette Yields

Click here to see the latest FTC press release on "Tar" and nicotine numbers for U.S cigaret brands, with links to the FTC reports for 1996 and 1997.

R.J. Reynolds

Tobacco Issues

Opinions & Philosophy
Health Issues
Tar & Nicotine
Secondhand Smoke
Children
Youth Smoking
Taxes/Legislation
Smokers' Rights
Litigation

Cigarette Ingredients

Reynolds Tobacco's use of cigarette ingredients is guided by the principle of achieving the desired taste characteristics by using the minimum amount of additives. Reynolds Tobacco does not -- and will not -- use any cigarette ingredient if scientific methods and tests indicate that it will increase the inherent toxicity of tobacco smoke.

Tobacco additives have been used in cigarettes throughout the history of cigarette manufacturing. The majority of these ingredients (such as cocoa and sugars) are used to enhance aroma and flavor. Others are used to enhance the sensory aspects, including taste, associated with the smoke (such as menthol), facilitate tobacco processing and cigarette manufacturing (such as carbon dioxide and water), and preserve moisture levels in the finished cigarette (such as water and glycerin).

Since 1985, the major tobacco companies have annually provided to the U.S. Department of Health and Human Services (HHS) a list of all ingredients added to tobacco in the manufacture of cigarettes. HHS is required to notify Congress of any concerns it has with any ingredients on the list.

The list released by the major cigarette manufacturers to the public includes approximately 600 ingredients added to tobacco in cigarettes sold in the United States. Cigarette brands that use ingredients use only a small number of the ingredients on the list.

- Most of these 600 ingredients (98%) are commonly used in foods and beverages or are permitted for use in food by the FDA or other expert committees.
- More than 95% of all of the ingredients used are included at levels of less than 500 parts per million.
- More than one third of the ingredients are used at levels below one part per million.

Not all cigarettes use tobacco additives. Although cigarettes without tobacco additives are not any safer than those with added ingredients, Reynolds Tobacco produces three brands that contain additive-free tobacco blends.

However, the taste characteristics of many tobacco blends that smokers enjoy could not be achieved without adding ingredients to the tobacco. For example, roughly 25 percent of all cigarettes sold in the United States have menthol added to their blends.

Furthermore, the use of additives is essential to manufacturers' ability to produce cigarette brands that are clearly differentiated from other brands from a taste standpoint.

As with any other consumer product, such as foods and beverages, the specific blend formulas for our brands (the recipes that include the exact amounts of every ingredient) are trade secrets, and we vigorously work to ensure that our competitors do not have access to our formulas.

Soon this website will include the full list of tobacco ingredients added by U.S. cigarette manufacturers that was submitted to the U.S. Department of Health and Human Services in 1994.

This site will also list the major ingredients in each of our brands, provide information about why specific ingredients are added to cigarettes, and offer examples of other products that contain those ingredients.

R.J. Reynolds

Tobacco Issues

- Opinions & Philosophy
- Health Issues
- "Tar" & Nicotine
- Cigarette Ingredients
- Settlements
- Youth Smoking
- Young Adult Smoking
- Smokers' Rights
- Litigation

Secondhand Smoke

R.J. Reynolds Tobacco Company understands that many people find secondhand cigarette smoke annoying, and wish to avoid being bothered by it. We also understand that some people want to avoid exposure to secondhand smoke because they believe it presents a risk to their health.

At the same time, we believe that smokers should have places where they can enjoy smoking a cigarette without bothering, or being bothered by, others.

There are many ways to allow smokers and nonsmokers to peacefully coexist in public places without resorting to smoking bans. Common courtesy and common sense -- coupled with adequate ventilation and filtration, and designated smoking areas -- can accommodate the wishes of both smokers and nonsmokers.

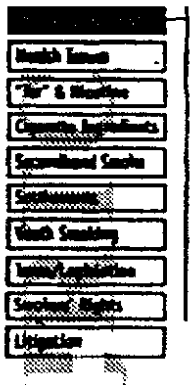
We believe, and common sense dictates, that parents and others should avoid exposing infants and young children to high concentrations of any airborne irritants, including tobacco smoke.

Despite the conclusion by a variety of public health organizations and government bodies, we do not believe that the scientific evidence concerning secondhand smoke establishes it as a risk factor for lung cancer, heart disease or any other disease in adult nonsmokers. However, a considerable amount of scientific research is being done in this area, and we will continue to evaluate the results of this work.

In our opinion, business owners know best how to satisfy their customers, and they should be allowed to decide whether they want to allow, restrict or ban smoking in their establishments.

RJ Reynolds

Tobacco Issues



Risk Reduction Efforts

Since there is no safe cigarette, what can be done to potentially reduce the health risks for adults who choose to smoke? In this section, we discuss a range of options and efforts on potential risk reduction. Of course, the best way to reduce the risks of smoking is to quit. For those who choose to continue to smoke, Reynolds Tobacco is committed to finding ways to develop and market consumer-acceptable cigarettes that might have the potential to reduce the risks of smoking.

R.J. Reynolds

Tobacco Issues

A History of Efforts to Reduce The Risk of Cigarettes

The fact that smoking carries risks has been recognized for a long time. Cigarettes have also been called "coffin nails" for at least a century, and were referred to as "cancer sticks" as early as the 1940's. And it has also been obvious throughout this period that the best way to reduce the risks of smoking is to quit.

Nevertheless, many people enjoy smoking and don't want to quit. As a result, there is a long history of efforts to modify cigarettes to reduce the risks presented by tobacco.

The long search for alternative types of cigarettes goes back at least to 1839, when a U.S. patent described the use of sunflower and rhubarb leaves as tobacco substitutes.

Since then, many designs based on burning natural or processed plant materials as a partial or complete substitute for tobacco filler have been described. Proposed substitutes have included cornstalks, eucalyptus leaves, lettuce leaves, cocoa bean hulls and many treated wood and paper products.

These efforts failed for a variety of reasons. First, most substitutes were unable to provide satisfactory taste. Second, although cigarette fillers based on plant and wood materials produced many of the same types of combustion compounds as tobacco, they sometimes introduced new compounds into the smoke. In addition, other products did not gain consumer acceptance because they did not resemble, nor produce smoke similar to, existing cigarettes.

During the past several decades, cigarette design innovations have focused largely on "tar" and nicotine reductions. This approach was based on a philosophy endorsed for many years by the U.S. Surgeon General and the public health community: "Less ought to be better."

Reynolds Tobacco continues to believe that less ought to be better. We have spent many decades developing ways to reduce overall "tar" and nicotine yields, and to reduce the levels of specific compounds in tobacco smoke, while seeking to maintain the taste, aroma and other sensory characteristics that smokers desire.

Throughout our company's history, Reynolds Tobacco has been a leader in innovative cigarette design. RJRT was the first to manufacture and market:

- A nationally popular filter cigarette (Winston in 1954);
- A filter-tipped menthol cigarette (Salem in 1956);
- A nationally popular low-"tar" cigarette (Vantage in 1970);
- A cigarette that produces smoke by heating, rather than burning, tobacco (Premier in 1988); and
- A cigarette that primarily heats, rather than burns, tobacco (Eclipse in 1996). Our company pioneered the development of many of the technological innovations that have helped reduce average "tar" and nicotine yields by 67 percent during the past 40 years. "Tar" and nicotine reductions have been achieved across the board - in full-flavor, light and ultra-light cigarettes. The techniques available to achieve these reductions include:
- Using more efficient filters;
- Perforating the filter-wrapping material, which dilutes the smoke by allowing more air to be drawn into the filter;
- Using more porous cigarette papers, which allow more air to enter and dilute the smokestream;
- Using expanded (puffed) tobacco in the blend, which increases the size of cut tobacco, and therefore reduces "tar" and nicotine by reducing the amount of tobacco required to fill the cigarette

root; and

- Using a higher proportion of reconstituted tobacco, which is a tobacco sheet made from tobacco scams and small leaf particles using a process similar to paper-making. The "tar" and nicotine yields of reconstituted tobacco are lower than those from equivalent amounts of natural tobacco leaf.

These and other techniques have allowed Reynolds Tobacco to offer a wide variety of cigarettes, ranging from the lowest "tar" products on the market to a number of full-flavor cigarette styles.

Our company, like other cigarette manufacturers, uses brand descriptors such as "full flavor," "lights" and "ultra lights" to differentiate cigarette brand-styles in terms of such characteristics as strength of taste, and reported "tar" and nicotine yield. These terms do not, and are not meant to, imply that any cigarette brand-style or any category of cigarettes is safer than any other.

For information about Reynolds Tobacco's most recent efforts to design new types of cigarettes that may have the potential to reduce the risks associated with smoking, click here to see the section on Premier and Eclipse.

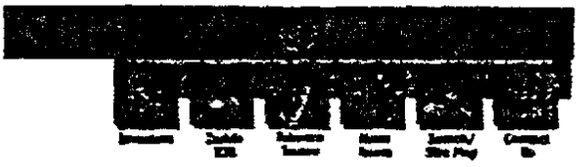
Links

For more information from RJRT about topics related to this section, see our website sections on:

Our Opinions and Philosophy
Health Issues
"Tar" and Nicotine
Premier and Eclipse
Tobacco-specific Nitrosamines
Cigarette Ingredients
Business and Marketing Principles

R.J. Reynolds

Tobacco Issues



Premier and Eclipse

Reynolds Tobacco's continuing quest to produce cigarettes with the potential to reduce risk resulted in the 1988 test-marketing of Premier, a new type of cigarette that heated, rather than burned, tobacco. Premier also significantly reduced secondhand smoke compared to tobacco-burning cigarettes.

Because of Premier's unique design, many of the compounds commonly found in cigarette smoke were dramatically reduced in, or eliminated from, the smoke of Premier. In addition, a comprehensive battery of toxicological tests showed that the smoke from Premier had significantly less biological activity (impact on animal cells and tissues) than that from tobacco-burning cigarettes.

After several months, RJRT withdrew Premier from the market, primarily for two reasons:

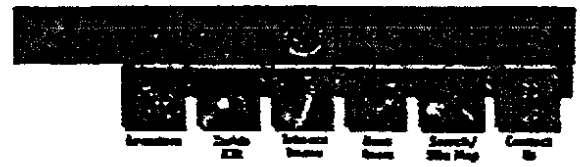
- Smokers found Premier's taste and aroma unacceptable;
- Some public health officials fiercely attacked Premier.

RJRT researchers went back to their laboratories to address the taste and aroma problems that hindered consumer acceptance of Premier. Three facts quickly became apparent:

- First, Premier's simplified smoke chemistry, reduced biological activity and diminished secondhand smoke are irrelevant if smokers will not smoke the cigarette.
- Second, a cigarette must burn some tobacco to provide a taste and aroma acceptable to smokers.
- Third, reductions in mainstream smoke chemistry, biological activity and secondhand smoke must be balanced against acceptability of taste, aroma and other characteristics desired by smokers.

In 1996, following several years of intense development efforts, RJRT began test marketing Eclipse, a new-generation cigarette that primarily heats, rather than burns, tobacco. While Eclipse is based on the same principle as Premier, its design is significantly different. For example, Premier contained an aluminum capsule that held and released glycerin and flavorings, while Eclipse does not. In addition, Premier burned no tobacco whatsoever, while Eclipse does burn a small amount.

Although the Eclipse cigarette burns a small amount of tobacco, its smoke chemistry is much simpler than that of current, tobacco-burning cigarettes. In addition, the biological activity of the smoke, as assessed by a battery of toxicological assays, is greatly reduced.



Tobacco Issues

Tobacco-Specific Nitrosamines

Some scientists believe that smoke constituents called tobacco-specific nitrosamines (TSNAs) are among the most potent carcinogens in cigarette smoke. And most scientists would agree that it is worthwhile for cigarette manufacturers to reduce or eliminate TSNAs.

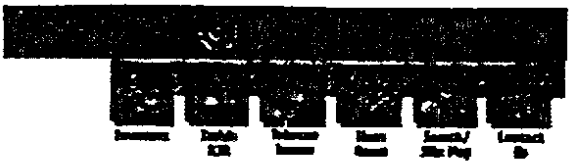
Reynolds Tobacco scientists have found that TSNA levels could be reduced by more than 90 percent in flue-cured tobacco leaf by using heat exchangers instead of direct-fire burners in the curing of tobacco. Tests in real-world conditions conducted by RJRT in 1999 confirmed earlier laboratory results, and our company has decided it will move as quickly as possible to the use of low-TSNA flue-cured tobacco in all of our cigarette brands.

There is, however, no scientific basis at this time to conclude that reducing nitrosamines, or any other single class of compounds, will reduce the risks associated with smoking.

As a result, we will not make any health claims -- direct or implied -- about the use of low-nitrosamine tobacco unless an appropriate battery of scientific tests can substantiate that the use of low-nitrosamine tobacco results in cigarettes that reduce the risks of smoking.

For more information about this topic, see our section on Risk Reduction Efforts.

Inside RJR



How We Think
- Corporate Fact Book
- Innovation
- Targacept
- The Market

Management

TARGACEPT, INC.

A wholly owned subsidiary of R.J. Reynolds Tobacco Company formed in 1997 to rapidly commercialize the company's nicotinic pharmacological technologies.

Background

For many years, R.J. Reynolds Tobacco Company has investigated the chemistry and biology of nicotine to gain a better understanding of the tobacco products we manufacture. Our company's research has resulted in hundreds of scientific papers and abstracts. This knowledge base, in conjunction with numerous investigations in the scientific literature into the biological effects of nicotine, has added significantly to our understanding of this widely consumed natural product.

At the same time, Reynolds Tobacco has a rich history of leveraging its scientific and technological expertise to foster progress in areas unrelated to the manufacture and sale of cigarettes. For example, since the 1970s, Reynolds Tobacco has operated Avoca, a research farm located in eastern North Carolina, that has developed and produces a number of natural products (such as perfume bases) for commercial use.

The creation of Targacept, Inc., a wholly owned subsidiary of R.J. Reynolds Tobacco Company, is the direct result of four important factors converging in the early 1990s:

- The knowledge that nicotine interacts with several different types of receptors (sites in the body that process chemical information).
- The biological effects of nicotine could be better understood by developing in the laboratory nicotinic compounds that would interact selectively with some, but not all, types of nicotinic receptors.
- The discovery that a number of chronic, debilitating diseases (such as Alzheimer's and Parkinson's) are associated with deficiencies in nicotinic receptors.
- Evidence that these diseases could be treated with nicotine and nicotine-like compounds that target the specific receptor sites associated with these diseases.

These factors led Reynolds Tobacco to believe that it could apply its nicotine expertise to investigate whether unique new therapeutic compounds could be created to treat these and other diseases.

Therapeutic Applications of Nicotine

Nicotine's beneficial effects on learning, memory, and other physiological and behavioral endpoints are well documented in the scientific literature. However, it was only in the last decade or so that possible therapeutic application of nicotine and nicotine-like compounds was noticed. For example, many epidemiological studies reported that smokers had a lower incidence of, and therefore a lower risk of developing, such disorders as Alzheimer's disease, Parkinson's disease and ulcerative colitis. By inference, it was thought that nicotine might also have an effect on such disorders as Tourette's syndrome, attention deficit disorder and schizophrenia.

Following up on these leads, scientists and research physicians started to explore the use of nicotine (e.g., in the form of gum or patch) in treating these disorders -- with exciting results. Researchers at the University of Vermont and Institute of Psychiatry in London have shown that nicotine improves attention and memory in Alzheimer's patients. In addition, researchers in Italy, the United Kingdom, and the Mayo Clinic in Minnesota, have shown that the nicotine patch reduces or relieves the symptoms of ulcerative colitis in 40-70% of cases. Even more striking are studies at the University of South Florida and in the United Kingdom showing dramatic reductions of symptoms in

Tourette's syndrome.

Finally, researchers at Duke University have recently shown that the nicotine patch significantly improves symptoms in adults with attention deficit disorder. Despite these very important findings, it is generally agreed that nicotine itself would not be suitable for therapeutic development because of its peripheral effects (increases in heart rate and blood pressure, and nausea).

Development of Novel Nicotinic Therapeutics

In an effort to leverage nicotine's beneficial effects while reducing or eliminating unwanted side effects, a number of pharmaceutical companies such as Abbott Laboratories and SIBIA (Salk Institute Biotechnology Industrial Associates), as well as Reynolds Tobacco scientists, have worked to discover and develop nicotine-like therapeutic compounds.

For example, Abbott has funded research on a compound that demonstrated beneficial effects on memory in Alzheimer's disease patients. Abbott is also testing another nicotine-like compound that appears to have potential as a novel type of analgesic (pain reducer).

Similarly, Reynolds Tobacco has tested a compound in animals and humans with very encouraging results. This compound shows significant improvement of short and long-term memory in animals, with minimal effects on heart rate, blood pressure and the gastrointestinal system. In addition, this compound has been tested in human volunteers and has been shown to have minimal side effects.

SIBIA now has compounds in clinical trials for Alzheimer's disease and Parkinson's disease. Although the clinical development of these novel nicotine-like compounds is progressing rapidly, no one to date has completed studies to demonstrate that these compounds are effective in treating these diseases. However, beneficial effects have been shown in numerous animal studies, suggesting that similar effects may soon be observed in humans.

Where We Go From Here

Reynolds Tobacco's efforts to discover and develop novel nicotine-like compounds that have therapeutic potential have already resulted in an extensive patent portfolio of nicotinic compounds with the potential to treat Alzheimer's disease, Parkinson's disease, Tourette's syndrome and attention deficit disorder. Progress is being made rapidly and many of these compounds are now poised for further development. The next step is to test their safety and effectiveness in humans. This is necessary before new compounds can be approved and sold as drugs.

To that end, in 1998, Targacept entered into a collaborative agreement with Rhone-Poulenc Pharmaceuticals Inc. (now known as Aventis Pharmaceuticals Inc.) to develop new drugs to treat Alzheimer's and Parkinson's diseases.

Reynolds Tobacco hopes that the results of these and other studies will confirm the potential therapeutic value of these new compounds and lead to new and more effective drugs that treat the symptoms and possibly slow or halt the progression of some of a variety of diseases. Through our Targacept, Inc. subsidiary, we intend to work with pharmaceutical companies toward the development and commercialization of nicotinic compounds for therapeutic purposes.

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BEST COPY

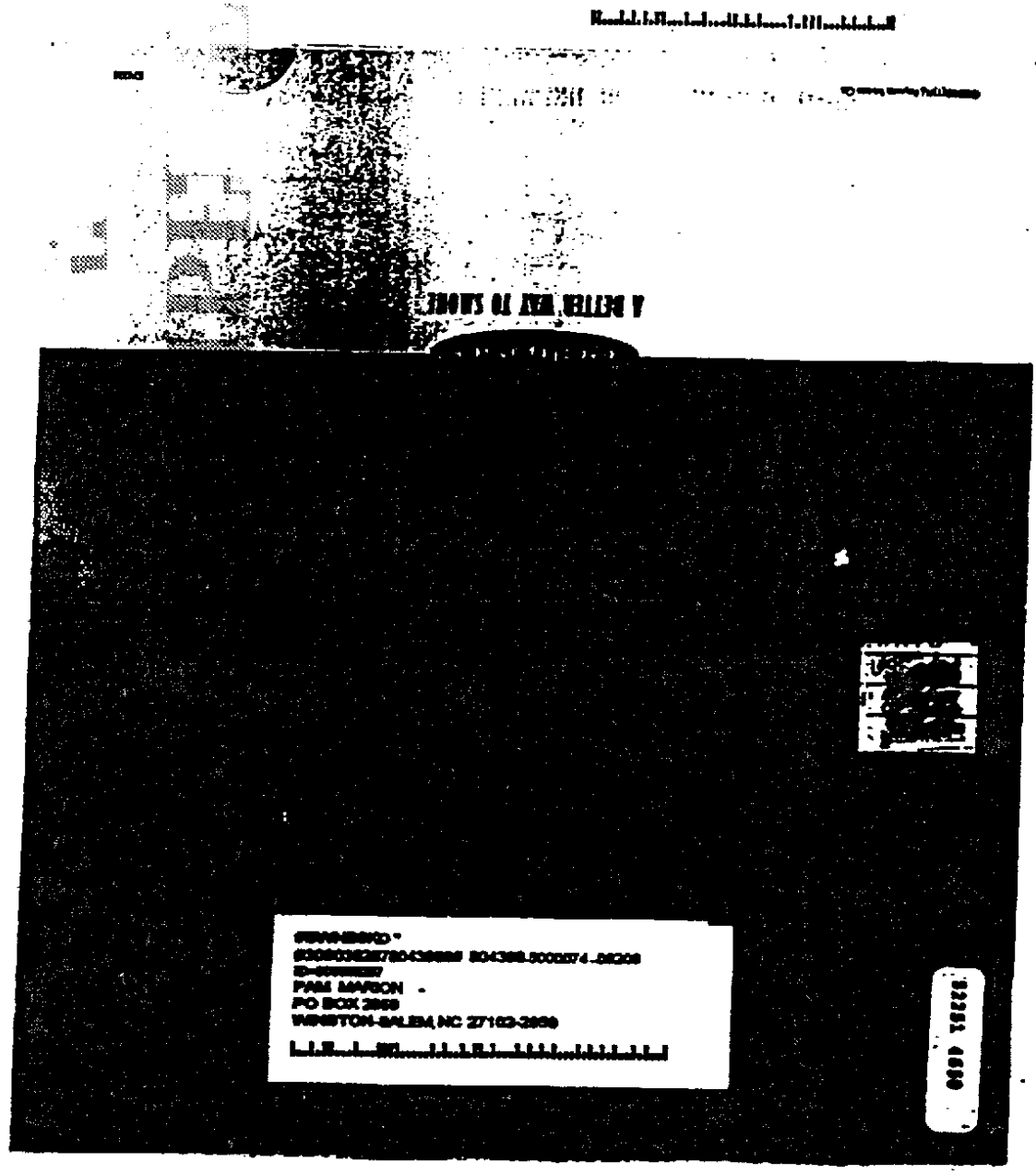
NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES

BUSINESS REPLY MAIL

FIRST-CLASS MAIL PERMIT NO 359 RICHARDSON TX

POSTAGE WILL BE PAID BY ADDRESSEE

ATTN DEPT GR6
ECLIPSE
PO BOX 834094
RICHARDSON TX 75083-9209



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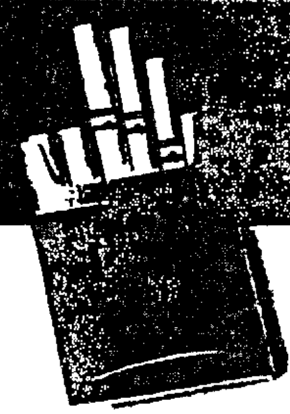

Thank you for contacting us. If you wish to be eligible to receive information about Eclipse, please help us verify that you are at least 21 years of age by filling out and returning the form below. We also ask that you include a copy of an official identification (Driver's license, Sporting license or State ID) which has your current address and date of birth.

If you have questions about this form, please call us at 1-800-708-7878.

Here's what to do:

STEP 1:
Check to make sure the address below is correct. Print any corrections in the box below. Note: the address on your official ID must match the correct address.

WINSTON-SALEM, NC

Make Any Address Corrections Here

STEP 2:
Fill out the information needed below:

What is your birthdate? Month / Day / Year

Today's date: Month / Day / Year

What is your USUAL BRAND? ______

STEP 3:
Insert a copy of your identification in the attached envelope. The name, street address, town/city, state and date of birth on your official identification MUST MATCH the name, street address, town/city, state and date of birth shown above in Steps 1 and 2. COPYING SOME FORMS OF OFFICIAL ID IS PROHIBITED IN SOME STATES. IF YOU LIVE IN ONE OF THESE STATES, PLEASE COPY ONE OF THE OTHER FORMS OF OFFICIAL ID.

STEP 4:
Send form and copy of identification in the enclosed envelope or mail to:
R.J. Reynolds Tobacco Company
P.O. Box 834094
Richardson, TX 75083-9209

RJReynolds

52251 4651

3 mg. "tar", 0.1 mg. nicotine av. per cigarette by FTC method.

SURGEON GENERAL'S WARNING: Smoking Causes Lung Cancer, Heart Disease, Emphysema, And May Complicate Pregnancy.

52649 0527

RJR-US v. PM ET AL.

HERE'S THE NEXT BEST CHOICE.

This is not a cigarette for people who want to avoid the risks of smoking. No cigarette is without risk. And it's not for people who want to quit.

This is for smokers who have been waiting for a cigarette that responds to certain smoking-related illnesses, including cancer.

It's called Eclipse, a new cigarette from R.J. Reynolds Tobacco Company. And while it's not an alternative to quitting, it is a better way to smoke.

A new cigarette that may present less risk.

Extensive scientific studies show that compared to other cigarettes:

- Eclipse may present less risk of cancer.
- Eclipse produces less inflammation in the respiratory system, which suggests a lower risk of chronic bronchitis, and possibly even emphysema.

The concept is simple. Heating instead of burning.

Eclipse contains far less of many of the compounds found in cigarette smoke that are believed to contribute to the risk of cancer and other illnesses.

How?

The concept is simple. Eclipse primarily heats tobacco rather than burning it. Heated air then releases the smoke and flavor as you puff. Smoke you can see, and flavor you can taste.

Let's talk about taste.

Many of the people in our product trials were pleasantly surprised by the taste of Eclipse. And people who switch say they smoke no more than they did before — and that they'd never go back to their old brand again.

Making a smoker's life easier.

With Eclipse, you can enjoy smoking without a lot of the hassle.

- Eclipse reduces secondhand smoke by 80%.
- No lingering odor in your hair, clothes, home or car.
- No messy ashes.
- No visible stains on walls, glass or draperies.

Eclipse isn't perfect.

Eclipse is still a cigarette, so there are a few more things you should know.

We don't claim that Eclipse presents less risk of cardiovascular disease or complications with pregnancy.

There is some evidence suggesting that compared to other cigarettes Eclipse may pose less risk to smokers of developing cardiovascular disease. However, other evidence suggests that smokers who already have this disease may further increase their health risk by switching to Eclipse.

As everyone knows, all cigarettes pose health risks, including Eclipse. Consult your doctor with questions about your health.

Eclipse is not for everyone. It takes a little getting used to — for most, about a week. But we've seen smokers with the biggest doubts go on to become its biggest fans. People who choose to smoke, with less hassle, less smell and possibly less risk.

Doesn't that sound better to you?

eclipse

A BETTER WAY TO SMOKE

SURGEON GENERAL'S WARNING: Smoking Causes Lung Cancer, Heart Disease, Emphysema, And May Complicate Pregnancy.

RJ Reynolds

IMPORTANT INFORMATION ABOUT A NEW CIGARETTE YOUR PATIENTS MAY ASK YOU ABOUT

44629
PAM MARION
PO BOX 2959
WINSTON SALEM NC 27102-2959

Dear Sir or Madame:

Smoking significantly increases your patients' risks for diseases such as lung cancer, coronary heart disease, chronic bronchitis and emphysema. Quitting is always the best way to avoid smoking-related risks.

At the same time, you probably have patients who continue to smoke — and some will soon be asking you about a new cigarette called Eclipse.

Extensive chemical and biological tests on Eclipse reveal that, when compared to other cigarettes, it:

- **Produces 90% fewer skin tumors in animal studies.**
- **Produces 70% less mutagens in the urine of smokers.**
- **Produces 46% less human bronchial inflammation.** (based on standard, visual bronchitis indices)
- **Produces 36% less lower-lung inflammation.** (based on inflammatory cell counts)
- **Produces 80% lower concentrations of many known, probable and possible carcinogenic smoke compounds as listed by International Agency for Research on Cancer, National Toxicology Program and Environmental Protection Agency.**

The data above, as well as other scientific evidence indicates that Eclipse may present less risk of cancer associated with smoking. However, Eclipse has not been shown to present less risk of all smoking-related diseases, including cardiovascular disease, or complications with pregnancy.

Adult smokers in your city may soon be able to purchase Eclipse. Should they come to you with questions, we wanted to let you know that there is substantial peer-reviewed scientific research behind it. We are not asking you to recommend or endorse Eclipse, but feel you should have access to information if you are asked questions by your patients.

The accompanying brochure briefly explains the science behind Eclipse. Our website (www.eclipse.rjrt.com) also contains a detailed summary of the scientific tests, plus abstracts and full-text versions of dozens of papers published in scientific journals and presented at conferences around the world.

When it comes to the health risks of smoking, the best choice is quitting.

Sincerely,

Gary Burger
Executive Vice President, Research & Development

574184

SURGEON GENERAL'S WARNING: Smoking Causes Lung Cancer, Heart Disease, Emphysema, And May Complicate Pregnancy.

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THE SCIENCE BEHIND ECLIPSE

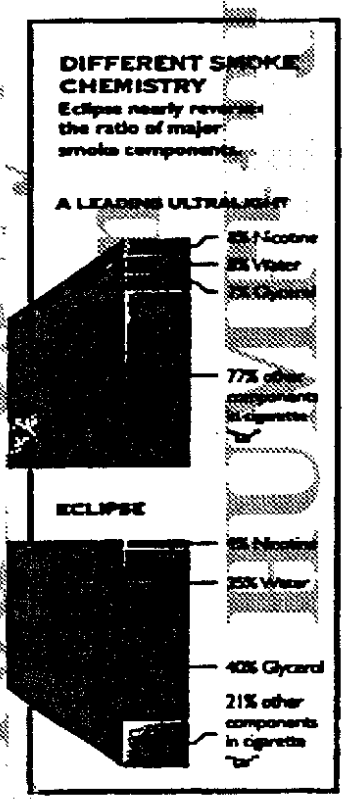
Current findings on a new cigarette that may present less risk of certain smoking-related diseases.

A NEW APPROACH
TO RISK REDUCTION

The best way for smokers to reduce the health risks from smoking is to quit smoking. Yet, despite universal awareness of the risks of smoking, many smokers continue to smoke.

R.J. Reynolds Tobacco Company has developed Eclipse — a new type of cigarette that primarily heats tobacco rather than burning it. Eclipse provides smokers with an alternative that may present less risk for certain diseases, including cancer.

SMOKE COMPOSITION:
A DRAMATIC DIFFERENCE FROM OTHER CIGARETTES



Because Eclipse primarily heats rather than burns tobacco, its smoke chemistry and the biological activity of its smoke and its "tar" are dramatically reduced compared to other cigarettes.*

Like other cigarettes, Eclipse contains tobacco and produces smoke that smokers inhale and exhale. The key difference is that the tobacco in Eclipse is primarily heated, rather than burned. In fact, Eclipse burns only about 3% as much tobacco as the leading "light" cigarette.

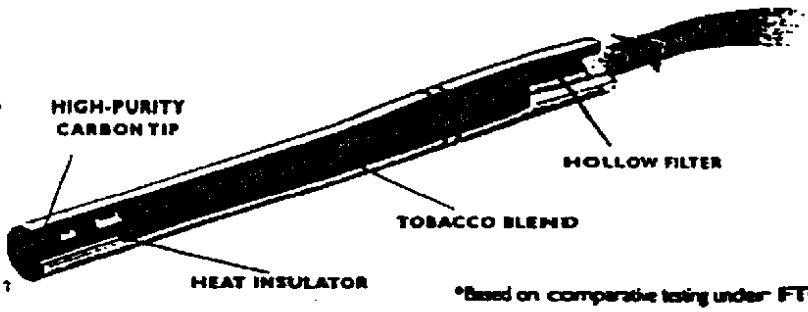
A DIFFERENT TYPE OF "TAR"

Visual residue from the smoke of three same number of cigarettes passed through identical pads under three smoke conditions demonstrates the dramatic difference in the "tar" from Eclipse.

At the end of Eclipse is a high-purity carbon tip. When a smoker lights the carbon and draws on the cigarette, warm air passes through tobacco that has a larger amount of glycerin applied to it than tobacco from other cigarettes. The heated air creates smoke by vaporizing the glycerin and releasing the tobacco's natural flavors and common flavorants. This dramatic difference can be observed in the filter pads shown above, which captured the smoke condensate from the same number of cigarettes passed through identical pads.

HOW ECLIPSE HEATS TOBACCO

Eclipse works much like a coffeemaker, which passes hot water through coffee grounds to release the flavor. In Eclipse, hot air passes through the tobacco releasing the smoke and smoke components.



*Based on comparative testing under FTC conditions.

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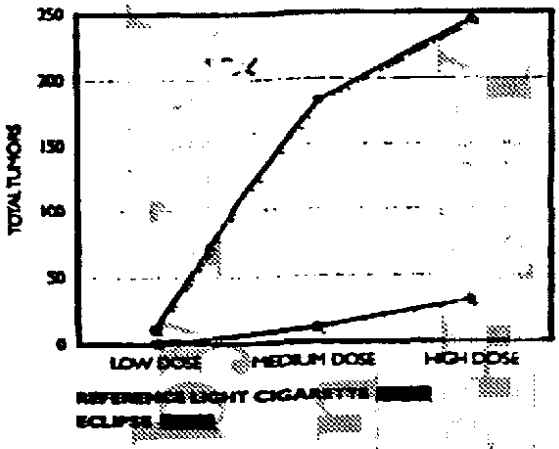
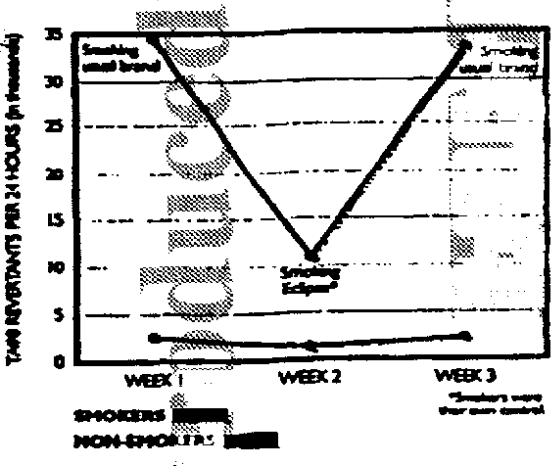
KEY SCIENTIFIC RESULTS

Eclipse has been extensively tested over the past several years using a tiered scientific testing approach that is based on the current understanding of disease processes. The following scientific findings (which are discussed in greater detail on our website: www.eclipse.rjrt.com) have been observed:

DERMAL TUMOR PROMOTION



URINE MUTAGENICITY



LOWER CARCINOGEN LEVELS

- R.J. Reynolds Tobacco Company measured 14 compounds found in cigarette smoke that appear on one or more of the following lists of known, probable or possible human carcinogens: International Agency for Research on Cancer, National Toxicology Program and Environmental Protection Agency.
- The smoke from Eclipse displays an 80% reduction in the overall yield of these 14 compounds when compared to the smoke from a leading ultralight cigarette (0.13 mg versus 0.68 mg). Acrolein was no different.
- Of the dozens of compounds measured in Eclipse smoke, only one (furfural) shows an increase compared to a leading ultralight. For a full report on compounds measured in Eclipse visit our website at www.eclipse.rjrt.com.

DECREASED TOXICITY

- Condensates ("tar") made from Eclipse smoke produced 90% fewer tumors and resulted in 80% fewer tumor-bearing animals in mouse skin painting studies where mice have been pretreated with a tumor initiator (DMBA — dimethylbenzanthracene).
- Condensates and whole smoke from Eclipse display significantly decreased potential to cause cytotoxicity and genotoxicity in cell cultures, compared to a reference light cigarette.
- Rat inhalation assays demonstrate a lower pulmonary inflammation potential in Eclipse, compared to a reference light cigarette.

REDUCED EFFECTS IN HUMANS

- Human smokers switching from their usual brand to Eclipse display approximately 70% less mutagens in their urine, as measured by Ames Assay. Salmonella bacterial strains TA98 and YG1024 were used. This result indicates dramatically less exposure to mutagens under actual human smoking conditions.
- Human smokers switching from their usual brand to Eclipse display less inflammation in the upper (-46%) and lower (-36%) lung, suggesting a reduced risk for chronic bronchitis and possibly emphysema. (Results are based on visual bronchitis indices and inflammatory cell counts).

OVERALL FINDINGS

CANCER

When the Eclipse data set is examined as a whole, indications are that Eclipse may present less risk of cancer than other cigarettes.

CHRONIC OBSTRUCTIVE PULMONARY DISEASE

Laboratory and clinical tests also show that Eclipse produces less inflammation in the respiratory system than other cigarettes. These results could indicate lower risk of developing such smoking-related diseases as chronic bronchitis and possibly emphysema.

Of course, the best way to avoid the health risks associated with smoking is to quit. Pregnant women and people who have cardiovascular disease, or an elevated risk for it, should not smoke any cigarette, including Eclipse.

ADDITIONAL FINDINGS

CARDIOVASCULAR DISEASE

We do not claim that Eclipse presents less risk for cardiovascular disease. The available information is inconclusive.

- There is some evidence that suggests, compared to other cigarettes, Eclipse may pose less risk to smokers of developing cardiovascular disease.
- Other evidence suggests that smokers who already have this disease may further increase their health risk by switching to Eclipse.

In general, smokers have significantly higher levels of carboxyhemoglobin (COHb) than non-smokers. The scientific literature indicates that reported average COHb levels in smokers typically range between 3% and 10% (although higher values have been reported).

Reynolds Tobacco has performed a number of short-term studies on smokers switching from their usual brand of cigarettes to Eclipse.

These studies have shown that, on average, COHb levels in smokers of Eclipse are somewhat higher than the levels when they are smoking their usual brand (8.7% COHb for Eclipse, versus 8.1% COHb for their usual brand). In some cases, individual smokers have shown relatively large COHb increases. However, the levels were within the range observed among smokers of other cigarettes (2.5% - 16.8%).

COHb elevations of this magnitude are unlikely to increase the risk of cardiovascular diseases in otherwise healthy smokers. However, individuals with preexisting heart disease should not smoke any cigarette, including Eclipse.

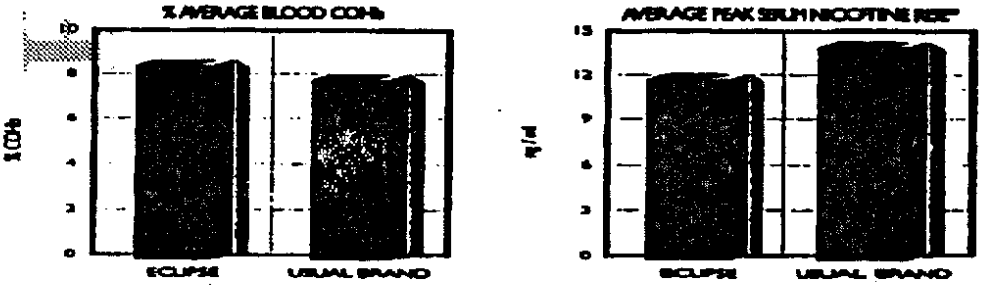
Because Eclipse has significantly lower levels of vapor-phase free radicals (which may cause oxidation of lipids and lipoproteins in the blood), as well as chemicals that have the potential to damage DNA in endothelial cells, some scientists believe Eclipse may present less risk for development of cardiovascular disease.

GLASS INSULATOR

There has been discussion in the scientific community regarding the continuous-filament glass-mat insulator that surrounds the Eclipse heat source. Some scientists have claimed that filaments from the heat source can be inhaled and can harm smokers.

Reynolds Tobacco specifically designed the filaments in the glass-mat insulator to be nonrespirable and nontoxic under conditions of use. In addition, an external panel of inhalation toxicologists, pathologists and pulmonologists has determined that, "under the conditions of intended use, glass filaments in the Eclipse cigarette pose no toxic or carcinogenic potential to humans."

COHb AND SERUM NICOTINE LEVELS
ECLIPSE VS. TEST SUBJECT'S USUAL BRAND



Smokers switching to Eclipse smoke about the same number of cigarettes per day as their current or usual brand. Smokers' serum nicotine levels are similar when switching to Eclipse versus their usual brand.

*"Rise" refers to change from baseline

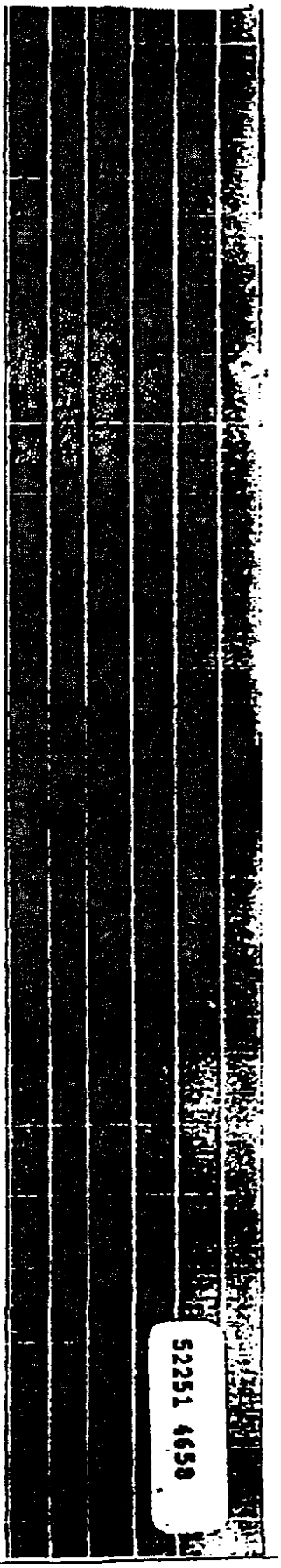
SURGEON GENERAL'S WARNING: Smoking Causes Lung Cancer, Heart Disease, Emphysema, And May Complicate Pregnancy.

ECLIPSE MAY PRESENT LESS RISK OF CANCER.

Compared to other cigarettes, Eclipse:

- Produces 90% fewer skin tumors in animal studies.
- Produces 70% less mutagens in the urine of smokers.
- Produces 46% less human bronchial inflammation (based on standard, visual bronchitis indices).
- Produces 36% less lower-lung inflammation (based on inflammatory cell counts).
- Produces 80% lower concentrations of many known, probable and possible carcinogenic smoke compounds as listed by International Agency for Research on Cancer, National Toxicology Program and Environmental Protection Agency.

To review the complete body of research, including dozens of peer-reviewed studies, visit our website: *www.eclipse.rjrt.com.*



R.J. Reynolds

FOR MORE INFORMATION...

If you would like more information about Eclipse, please visit our website: www.eclipse.rjrt.com. The website contains a detailed page summary of the scientific tests conducted on Eclipse, as well as dozens of scientific publications on Eclipse that have appeared in peer-reviewed journals or have been presented at scientific conferences.

If you have any additional questions, please e-mail us at EclipseScience@RJRT.com.

Eclipse Box

3 mg. "tar", 0.1 mg. nicotine av. per cigarette by FTC method.

SURGEON GENERAL'S WARNING: Smoking Causes Lung Cancer, Heart Disease, Emphysema, And May Complicate Pregnancy.

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Title:
A BETTER WAY TO SMOKE.
Author:
RJR; BURGER GT
Recipients:
MARION P; ECLIPSE
Copyees:

Mentioned Names:
MARION P; RJR; INTL AG FOR RESEARCH ON CANCER; NATL TOXICOLOGY PROGRAM; EPA
Mentioned Brand:
ECLIPSE
Document ID:
522514650 -4659
Document Type:
PROMOTIONAL MATERIALS; LETTER; PUBLISHED DOC
Doc Date:
20000000
Case Name and Request Number:
US PRIORITY REQUEST 2
Possible Minnesota Requests:

Depository Production Date:
20010221
Depository Box:
RJR4853
Page Count:

Referenced Document:

Date Loaded:
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Source:
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OPS COORD II;
Other Number:

Attachment:

Special Collections:

Trial Exhibits:

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Exhibit 5

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MASTER SETTLEMENT AGREEMENT

MASTER SETTLEMENT AGREEMENT
Table of Contents

use. Disclosures made pursuant to the preceding sentence shall be filed in writing with the Office of the Attorney General on the first day of February and the first day of August of each year for any and all payments made during the six month period ending on the last day of the preceding December and June, respectively, with the following information: (1) the name, address, telephone number and e-mail address (if any) of the recipient; (2) the amount of each payment; and (3) the aggregate amount of all payments described in this subsection (2)(B) to the recipient in the calendar year; and

(C) have reviewed and will fully abide by the Participating Manufacturer's corporate principles promulgated pursuant to this Agreement when acting on behalf of the Participating Manufacturer.

No Participating Manufacturer may support or cause to be supported (including through any third party or Affiliate) in Congress or any other forum legislation or rules that would preempt, override, abrogate or diminish such Settling State's rights or recoveries under this Agreement. Except as specifically provided in this Agreement, nothing herein shall be deemed to restrain any Settling State or Participating Manufacturer from advocating terms of any national settlement or taking any other positions on issues relating to tobacco.

(n) Restriction on Advocacy Concerning Settlement Proceeds. After the MSA Execution Date, no Participating Manufacturer may support or cause to be supported (including through any third party or Affiliate) the diversion of any proceeds of this settlement to any program or use that is neither tobacco-related nor health-related in connection with the approval of this Agreement or in any subsequent legislative appropriation of settlement proceeds.

(o) Dissolution of The Tobacco Institute, Inc., the Council for Tobacco Research-U.S.A., Inc. and the Center for Indoor Air Research, Inc.

(1) The Council for Tobacco Research-U.S.A., Inc. ("CTR") (a not-for-profit corporation formed under the laws of the State of New York) shall, pursuant to the plan of dissolution previously negotiated and agreed to between the Attorney General of the State of New York and CTR, cease all operations and be dissolved in accordance with the laws of the State of New York (and with the preservation of all applicable privileges held by any member company of CTR).

(2) The Tobacco Institute, Inc. ("TI") (a not-for-profit corporation formed under the laws of the State of New York) shall, pursuant to a plan of dissolution to be negotiated by the Attorney General of the State of New York and the Original Participating Manufacturers in accordance with Exhibit G hereto, cease all operations and be dissolved in accordance with the laws of the State of New York and under the authority of the Attorney General of the State of New York (and with the preservation of all applicable privileges held by any member company of TI).

(3) Within 45 days after Final Approval, the Center for Indoor Air Research, Inc. ("CIAR") shall cease all operations and be dissolved in a manner consistent with applicable law and with the preservation of all

applicable privileges (including, without limitation, privileges held by any member company of CIAR).

(4) The Participating Manufacturers shall direct the Tobacco-Related Organizations to preserve all records that relate in any way to issues raised in smoking-related health litigation.

(5) The Participating Manufacturers may not reconstitute CTR or its function in any form.

(6) The Participating Manufacturers represent that they have the authority to and will effectuate subsections (1) through (5) hereof.

(p) Regulation and Oversight of New Tobacco-Related Trade Associations.

(1) A Participating Manufacturer may form or participate in new tobacco-related trade associations (subject to all applicable laws), provided such associations agree in writing not to act in any manner contrary to any provision of this Agreement. Each Participating Manufacturer agrees that if any new tobacco-related trade association fails to so agree, such Participating Manufacturer will not participate in or support such association.

(2) Any tobacco-related trade association that is formed or controlled by one or more of the Participating Manufacturers after the MSA Execution Date shall adopt by-laws governing the association's procedures and the activities of its members, board, employees, agents and other representatives with respect to the tobacco-related trade association. Such by-laws shall include, among other things, provisions that:

(A) each officer of the association shall be appointed by the board of the association, shall be an employee of such association, and during such officer's term shall not be a director of or employed by any member of the association or by an Affiliate of any member of the association;

(B) legal counsel for the association shall be independent, and neither counsel nor any member or employee of counsel's law firm shall serve as legal counsel to any member of the association or to a manufacturer of Tobacco Products that is an Affiliate of any member of the association during the time that it is serving as legal counsel to the association; and

(C) minutes describing the substance of the meetings of the board of directors of the association shall be prepared and shall be maintained by the association for a period of at least five years following their preparation.

(3) Without limitation on whatever other rights to access they may be permitted by law, for a period of seven years from the date any new tobacco-related trade association is formed by any of the Participating Manufacturers after the MSA Execution Date the antitrust authorities of any Settling State may, for the purpose of enforcing this Agreement, upon reasonable cause to believe that a violation of this Agreement has occurred, and upon reasonable prior written notice (but in no event less than 10 Business Days):

(A) have access during regular office hours to inspect and copy all relevant non-privileged, non-work-product books, records, meeting agenda

and minutes, and other documents (whether in hard copy form or stored electronically) of such association insofar as they pertain to such believed violation; and

(B) interview the association's directors, officers and employees (who shall be entitled to have counsel present) with respect to relevant, non-privileged, non-work-product matters pertaining to such believed violation.

Documents and information provided to Settling State antitrust authorities shall be kept confidential by and among such authorities, and shall be utilized only by the Settling States and only for the purpose of enforcing this Agreement or the criminal law. The inspection and discovery rights provided to the Settling States pursuant to this subsection shall be coordinated so as to avoid repetitive and excessive inspection and discovery.

(q) Prohibition on Agreements to Suppress Research. No Participating Manufacturer may enter into any contract, combination or conspiracy with any other Tobacco Product Manufacturer that has the purpose or effect of: (1) limiting competition in the production or distribution of information about health hazards or other consequences of the use of their products; (2) limiting or suppressing research into smoking and health; or (3) limiting or suppressing research into the marketing or development of new products. Provided, however, that nothing in this subsection shall be deemed to (1) require any Participating Manufacturer to produce, distribute or otherwise disclose any information that is subject to any privilege or protection; (2) preclude any Participating Manufacturer from entering into any joint defense or joint legal interest agreement or arrangement (whether or not in writing), or from asserting any privilege pursuant thereto; or (3) impose any affirmative obligation on any Participating Manufacturer to conduct any research.

(r) Prohibition on Material Misrepresentations. No Participating Manufacturer may make any material misrepresentation of fact regarding the health consequences of using any Tobacco Product, including any tobacco additives, filters, paper or other ingredients. Nothing in this subsection shall limit the exercise of any First Amendment right or the assertion of any defense or position in any judicial, legislative or regulatory forum.

IV. PUBLIC ACCESS TO DOCUMENTS

(a) After the MSA Execution Date, the Original Participating Manufacturers and the Tobacco-Related Organizations will support an application for the dissolution of any protective orders entered in each Settling State's lawsuit identified in Exhibit D with respect only to those documents, indices and privilege logs that have been produced as of the MSA Execution Date to such Settling State and (1) as to which defendants have made no claim, or have withdrawn any claim, of attorney-client privilege, attorney work-product protection, common interest/joint defense privilege (collectively, "privilege"), trade-secret protection, or confidential or proprietary business information; and (2) that are not inappropriate for public disclosure because of personal privacy interests or contractual rights of third parties that may not be abrogated by the Original Participating Manufacturers or the Tobacco-Related Organizations.

(b) Notwithstanding State-Specific Finality, if any order, ruling or recommendation was issued prior to September 17, 1998 rejecting a claim of privilege or trade-secret protection with respect to any document or documents in a lawsuit identified

R.J.Reynolds Tobacco Company

Wayne W Juchatz
Vice President,
General Counsel
and Secretary
(919) 773-6378

RJR

March 25, 1986

Michael S. Davidson, Esq.
Jacob, Medinger & Finnegan
1270 Avenue of the Americas
Rockefeller Center
New York, New York 10112-1796

Re: Dr. Rongar Bick
RJR Special Project

Dear Mike:

We agree to the continuation of Dr. Bick's research on lung cancer in Kern County, California as outlined in your letter of March 13, 1986. We also accept our share of the $36,833 cost.

Very truly yours,

Wayne W. Juchatz

WWJ:ja

DEPOSITION EXHIBIT
6
BURGER
7/26/01

50773 7625

52649 0543

(13)

Exhibit 7

LAW OFFICES
SHOOK, HARDY & BACON

FAX (816) 421-5547
W.U.I. TELEX 4936 SHB KSC
A PARTNERSHIP INCLUDING PROFESSIONAL CORPORATIONS

ONE KANSAS CITY PLACE
1200 MAIN STREET
KANSAS CITY, MISSOURI 64105
(816) 474-6550

OTHER OFFICES:
40 CORPORATE WOODS
OVERLAND PARK, KANSAS
10 BUCKINGHAM GATE
LONDON, ENGLAND

August 31, 1990

-- Discussed with J. Brown -
- She recommends that we support Dr. Feinstein

Wayne W. Juchatz, Esq.
Josiah S. Murray, III, Esq.
Ernest Pepples, Esq.
Paul A. Randour, Esq.
Arthur J. Stevens, Esq.
Charles R. Wall, Esq.

Re: Feinstein Research Proposal

Gentlemen:

We have received a request from Dr. Alvan Feinstein for renewal of his research support from the tobacco industry. As indicated in the attached letter, Dr. Feinstein has received CTR support for the past four years and is now requesting continued funding. Also attached for your information are copies of several scientific articles that have been published during the time period of CTR support.

By all accounts, Dr. Feinstein remains very active in the field of clinical epidemiology. His work is frequently cited and often generates scientific debate in both medical and epidemiological circles. Dr. Feinstein's recent research on the underdiagnosis of lung cancer, based on autopsy data, is a good example.

With regard to the requested funding, Dr. Feinstein will focus his activities on the following areas: (1) continued review of lung cancer statistics for accuracy; (2) examination of lung cancer staging data to track improvements in diagnosis; (3) review the relationship between cigarette smoking history and the age lung cancer develops along with the prognosis of the disease; and (4) performance of new studies in the area of geographic and temporal distribution of lung cancer.

Dr. Feinstein has requested continued research support in the amount of approximately $276,140.00 for the first year. He has estimated that the amount would be increased approximately 5% if the research were continued for a second and/or third year. Dr. Feinstein's estimates and the accompanying explanations are contained in his attached request.

Given the relevance and high quality of Dr. Feinstein's past research, we recommend that his project be funded for one additional year with a possible extension depending on the progress of the work. We also propose that the research be funded directly by the companies on a market share basis (using the most recent Maxwell figures).

Phillip Morris	43%	$118,740.00
Reynolds	28.1%	$ 77,595.00
Brown & Williamson	11.8%	$ 32,585.00
Lorillard	7.5%	$ 20,711.00
American	6.5%	$ 17,949.00
Liggett	3.1%	$ 8,560.00
		$276,140.00

Please let me know as soon as practicable whether your company will participate in the support of the Feinstein research.

Cordially,

Patrick M. Sirridge

PMS/tks
cc: Janet C. Brown, Esq.
Francis K. Decker, Esq.
Michael A. Nims, Esq.

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